STATE OF CALIFORNIA
The Resources Agency

Department of Water Resources

BULLETIN No. 181-75

WATERMASTER SERVICE IN THE UPPER LOS ANGELES RIVER AREA LOS ANGELES COUNTY

OCTOBER 1, 1974 — SEPTEMBER 30, 1975

MARCH 1976

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Edmund G. Brown Jr., Governor
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Robert W. James, Deputy Director
Charles R. Shoemaker, Assistant Director

SOUTHERN DISTRICT

Jack J. Coe . . . . . Chief, Southern District and Watermaster
Mitchell L. Gould . . . .Chief, Operations Branch and Deputy Watermaster

Watermaster service in this area was conducted
and report prepared under the direction
of

Clyde B. Arnold . . . . . Chief, Water Contract Administration Section

by

Carlos Madrid . . . . . Deputy Watermaster

assisted by

Robert R. Sullivan. . . . . Assistant Engineer Water Resources
Cesar M. Garma. . . . . Assistant Engineer Water Resources
Stephen C. Anderson . . . . . Assistant Engineer Water Resources
Raymond Woo . . . . . Assistant Engineer Water Resources
William H. McCann . . . . . .Water Resources Technician II
Richard M. Miller, Jr.. . . . . .Water Resources Technician II
James Ishiki. . . . . Water Resources Technician I
Tom Smith . . . . . Water Resources Technician I
John Stanley. . . . . Water Resources Technician I
Bertha Ruiz . . . . . .Senior Clerk Typist
Martha Sexton . . . . . .Senior Clerk Typist
Victor Rosen. . . . . .Research Writer
Dean H. Wilson. . . . . .Head, Drafting Services
Paul Tiffany. . . . . .Head, Computer Services
Alfredo Llamas. . . . . .Student Assistant

FOREWORD

The Department of Water Resources as Watermaster for the Upper Los Angeles River Area (ULARA) is pleased to submit this report of water supply conditions in ULARA during the 1974-75 water year. It was prepared in accordance with the provisions of the original Los Angeles County Superior Court Judgment dated March 14, 1968 and does not reflect the May 12, 1975 decision of the State Supreme Court. The original Judgment, together with Part 4, Division 2, of the California Water Code, authorized this publication and the Department's administration of the Watermaster Service Area.

The effect the May 12 decision of the State Supreme Court will have on Watermaster Service in ULARA has not been determined. In order to maintain continuity in operation, the Watermaster will maintain records as in the past until new procedures are developed. This is in accordance with the wish of the ULARA Advisory Board.

This report includes information on ground water extractions, use of imported water, recharge operations, water quality conditions, a financial report on Watermaster Service during the 1974-75 fiscal year, and the tentative budget of the Watermaster for the 1976-77 fiscal year.

A Subcommittee on Cyclic Storage was formed by the Advisory Board during 1973-74. Together with the Department of Water Resources, The Metropolitan Water District of Southern California (MWD), and the Los Angeles County Flood Control District (LACFCD), the Subcommittee is studying the feasibility of using the San Fernando Basin for storing water from the State Water Project. This report includes a statement on the progress of this study.

The Watermaster wishes to acknowledge and express his appreciation for the assistance and support received from the many public and private organizations and individuals whose contributions were essential to this report.

Jack J. Coe, Chief
Southern District
and Watermaster
Reg. C. E. No. 8075

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TABLES

I. INTRODUCTION

Upper Los Angeles River Area (ULARA) encompasses all of the watershed of the Los Angeles River and its tributaries above a point in the River designated as Los Angeles County Flood Control District (LACFCD) Gaging Station F-57C, northwesterly of the junction of the surface channels of the Los Angeles River and the Arroyo Seco (Plate 1). The entire area consists of 330,000 acres, comprising 123,000 acres of valley fill, referred to as the ground water basins, and 207,000 acres of hills and mountains. ULARA is bounded on the north by the Santa Susana Mountains and on the east by the San Rafael Hills which separate it from the San Gabriel Basin. To the south, the Santa Monica Mountains separate it from the Los Angeles Basin and to the west, lie the Simi Hills.

ULARA, as defined in the Judgment, has four distinct hydrologic ground water basins. The water supplies of these basins are separate and independent and are replenished by deep percolation from rainfall and from a portion of the water that is delivered for use within these basins and which returns to the ground water body. The four ground water basins in ULARA are the San Fernando, Sylmar, Verdugo, and Eagle Rock Basins (Plate 1).

The San Fernando Basin, the largest of the four basins, consists of 112,000 acres and comprises 90.8 percent of the total valley fill. It is bounded on the east and northeast by the San Rafael Hills and Verdugo Mountains; on the south by the Santa Monica Mountains; and on the northwest and west by the Santa Susana Mountains and Simi Hills.

The Sylmar Basin, in the northerly part of ULARA, consists of 5,600 acres and comprises 4.5 percent of the total valley fill. It is bounded on the north and east by the San Gabriel Mountains; to the south it is divided by the eroded limb of the Little Tujunga syncline; and the topographic divide in the valley fill, lying between the Mission Hills and San Gabriel Mountains, divides it on the west.

The Verdugo Basin, north and east of the Verdugo Mountains in ULARA, consists of 4,400 acres and comprises 3.8 percent of the total valley fill. It is bounded on the north by the San Gabriel Mountains; on the east by the ground water divide between the Monk Hill Subarea of the Raymond Basin and the Verdugo Basin; on the southeast by the San Rafael Mountains; and on the south and southwest by Verdugo Mountains.

The Eagle Rock Basin, the smallest of the four basins, is in the extreme southeast corner of ULARA. It comprises 800 acres and consists of 0.6 percent of the total valley fill.

istory of Adjudication

ULARA was established by the JUDGMENT AFTER TRIAL BY COURT in Superior Court Case No. 650,079, entitled The City of Los Angeles, A Municipal Corporation, Plaintiff, vs. City of San Fernando, et al., Defendants signed March 14, 1968 by the Honorable Edmund M. Moor, Judge of the Superior Court. Prior to the Judgment, numerous pretrials were held, subsequent to the filing of the action by the City of Los Angeles in 1955 and before the trial commenced on March 1, 1966.

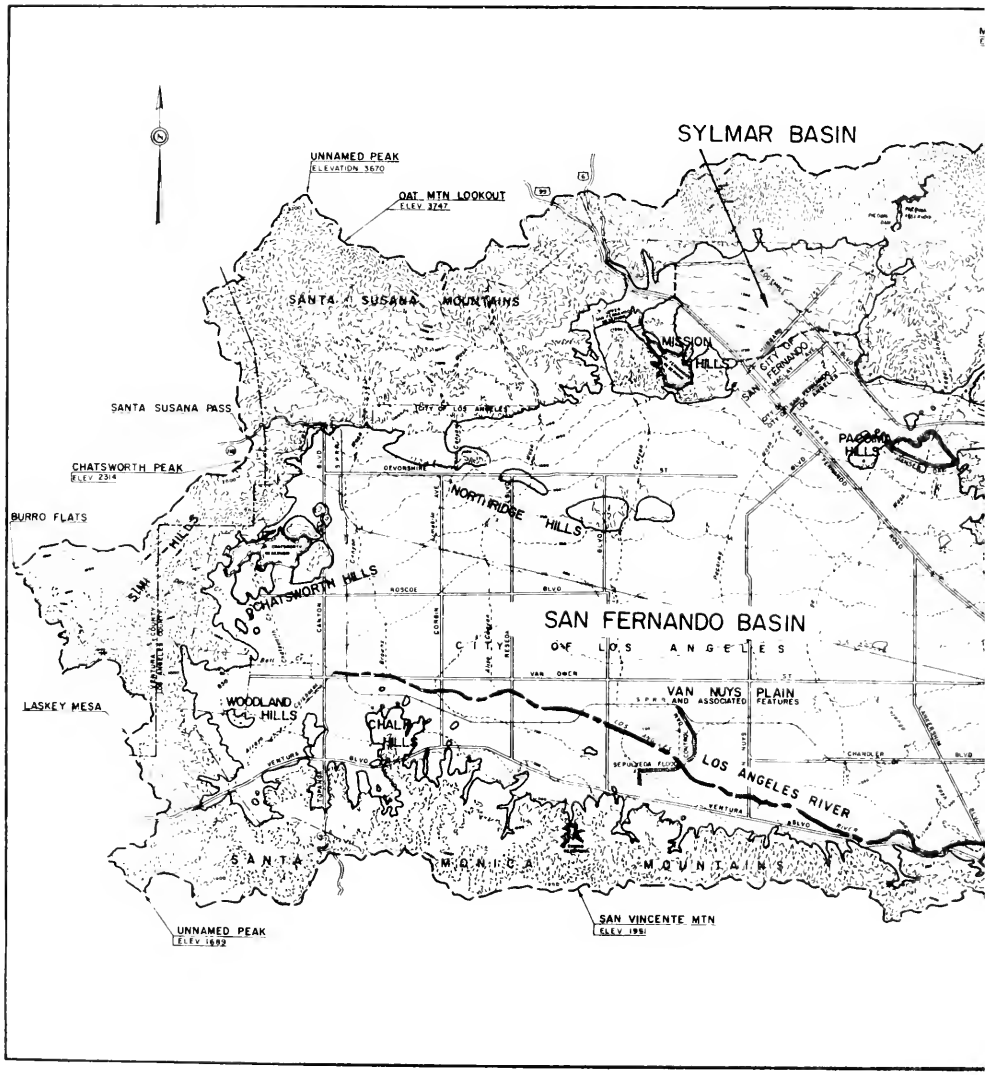

SYLMAR BASIN
UNNAMED PEAK
ELEVATION 3670
OAT MTN LOOKOUT
ELEV 3747
SANTA SUSANA MOUNTAINS
MISSION HILLS
SANTA SUSANA PASS
CHATSWORTH PEAK
ELEV 2314
BURRO FLATS
NORTHRIDGE HILLS
CHATSWORTH HILLS
SIMI HILLS
SAN FERNANDO BASIN
OF LOS ANGELES
LASKEY MESA
WOODLAND HILLS
CHALK HILLS
VAN NUYS PLAIN
AND ASSOCIATED FEATURES
LOS ANGELES RIVER
SANTA MONICA MOUNTAINS
UNNAMED PEAK
ELEV 1692
SAN VINCENTE MTN
ELEV 1951

PLATE I


GLEASON MTN
ELEV 6532
PACIFICO MTN
UNNAMED PEAK
SAN GABRIEL MOUNTAINS
VERDUGO BASIN
STRAWBERRY PEAK
ELEV 6164
BARLEY FLATS
UNNAMED PEAK
ELEV 5410
UNNAMED PEAK
ELEV 4306
SUNLAND-LA CRESCENTA
PIEDMONT SLOPE
VERDUGO MOUNTAINS
BURBANK
PIEDMONT SLOPE
SAN RAFAEL HILLS
EAGLE ROCK
SAN RAFAEL HILLS
CAHUENGA PEAK
ELEV 1627
EAGLE ROCK BASIN
ELYSIAN HILLS
REPETTO HILLS
LACFCD GAGE F 57
LEGEND
WATERSHED BOUNDARY
WATER COURSE
BOUNDARY OF VALLEY FILL
CITY BOUNDARY
COUNTY BOUNDARY
LINE OF EQUAL ELEVATION OF GROUND SURFACE
REFERENCE CONTOURS BASED ON USGS QUADS
DATUM IS MEAN SEA LEVEL
CONTOUR INTERVALS 50, 200 AND 400 FEET
UPPER LOS ANGELES
RIVER AREA
SCALE

On March 19, 1958, an Interim Order of Reference was entered by the Court directing the State Water Rights Board, now known as the State Water Resources Control Board (SWRCB), to study the availability of all public and private records, documents, reports and data relating to a proposed order of reference in the case. The Court subsequently entered on June 11, 1958, an "Order of Reference to State Water Rights Board to Investigate and Report upon the Physical Facts (Section 2001, Water Code)".

A final Report of Referee was approved on July 27, 1962, and filed with the Court. The Report of Referee made a complete study of the geology, insofar as it affects the occurrence and movement of ground water, and the surface and ground water hydrology of the area. In addition, investigations were made of: the history of the horizontal and vertical location of the beds, banks and channels of the Los Angeles River and its tributaries; the areas, limits, and directions of flow of all ground water within the area; the quality of the ground water in the basins; all sources of water, whether they be diverted, extracted, or imported, etc. This was the basis for the Judgment.

The City of Los Angeles filed an appeal with the Court of Appeals which held a hearing on November 9, 1972, and issued its opinion on November 22, 1972. The opinion, prepared by Judge Compton and concurred by Judges Roth and Fleming, reversed, with direction, the original Judgment handed down by Judge Moor. In essence, the City of Los Angeles was given rights to all water within ULARA including the use of the underground basins. The defendants, however, were given the right to capture "return water", which is purchased MWD water that percolates into the basin.

A petition for rehearing was filed on December 7, 1972, but was denied by the Court of Appeals. On January 2, 1973, the defendants appealed to the State Supreme Court. The Court on March 2, 1973, advised the parties it would hear the case. The hearing was held on January 14, 1975.

On May 12, 1975, the California Supreme Court issued its decision on the 20-year San Fernando Valley Water Litigation. This decision, which became final on August 1, 1975, upheld the Pueblo Water Rights of the City of Los Angeles to all ground water in the San Fernando Basin derived from precipitation within ULARA. The City of Los Angeles' Pueblo Water Rights were not allowed to extend to the ground waters of Sylmar and Verdugo Basins.

The City of Los Angeles was also given rights to all San Fernando Basin ground water derived from water imported by it from outside ULARA and either spread or delivered within ULARA. The Cities of Glendale and Burbank each were given rights to all San Fernando Basin ground water derived from water that such city imports from outside ULARA and delivered within ULARA.

Presently, the Cities of Los Angeles, Glendale and Burbank are negotiating a stipulated agreement regarding the physical solutions and the pumping rights within the San Fernando Basin. It has been agreed that the extractions from and importation to the San Fernando Basin by each party in the period from October 1, 1975, to the effective date

of the Stipulated Injunction now being discussed, shall be charged or credited as the case may be to that party's entitlement for the current water year as finally determined in such injunction. The Watermaster (DWR) will continue to maintain records until the Watermaster's role has been defined.

termaster Service

Watermaster Service is administered by the Department of Water Resources (DWR) under Article 2, Chapter 2.5, Division 1 and Part 4, Division 2, of the California Water Code. Section 4025 authorizes DWR to form Watermaster Service Areas. Pursuant to Section 4026, such areas are created from time to time as rights to water are ascertained and determined. Particularly where ground water is concerned, such rights are usually ascertained or determined by court decree.

The first Watermaster Service Area was formed in September 1929 and the latest (ULARA) was formed on April 19, 1968. Currently, there are 20 such areas controlling surface water diversions in northern California and 4 controlling ground water use in southern California.

Under the original Judgment, the Court appointed DWR as Watermaster to keep the Court fully advised in the premises, and to assist the Court in the administration and enforcement of the provisions of the Judgment.

The effect the May 12 decision of the State Supreme Court will have on Watermaster Service in ULARA has not been determined. In order to maintain continuity in operation, Watermaster Service will be administered as in the past until new procedures are developed. This is in accordance with the wish of the ULARA Advisory Board.

A major task of the Watermaster in ULARA is that of monitoring ground water extractions. In accordance with the "General Information Policies and Procedures" of January 4, 1971, adopted by the Advisory Board, every ground water pumper reports his ground water extractions on a monthly basis on preprinted forms prepared and supplied by the Watermaster. This makes possible the updating of the water rights accounts (Watermaster Water Production Summary) by computing the amount pumped during the previous month, the total amount pumped to date, and the amount that can be legally pumped during the remainder of the water year. A copy of the updated account is then mailed to the pumper each month.

The Watermaster's field staff performs water-meter tests to verify ground water production reported by the parties when requested by any party to the Judgment or at the discretion of the Watermaster.

Defective or inaccurate water measuring devices must be repaired within 30 days after receiving written notice of the results of the test from the Watermaster. A number of well site investigations were made during 1974-75, and three meter tests were performed.

The Watermaster keeps the Court apprised of hydrologic conditions within ULARA by means of annual reports and on special occasions by correspondence directed to the Court, both of which are reviewed by the Advisory Board before submittal. In preparing the annual report, the Watermaster collects and reports all information affecting and

relating to the water supply and disposal within ULARA. Such information includes the following items:

1. Water Supply

   a. Precipitation
   b. Imported water

2. Water use and disposal

   a. Extractions

      (1) Used in valley fill area
      (2) Exported from each basin

   b. Water outflow

      (1) Surface
      (2) Subsurface
      (3) Sewers

3. Water levels

4. Transfers of water rights

5. Watermaster administrative budgets and costs

6. Compliance and violation by any party in terms of the Judgment

7. Ownership and locations of new wells

In addition to the above duties, the Watermaster also makes recommendations as he deems appropriate in connection with the proper utilization of the water supply in the underground storage capacities of ULARA.

Advisory Board

Section X, Paragraph 5 of the ULARA Judgment established an Advisory Board for the purpose of advising the Watermaster in the administration of his duties. The duly appointed members of the Board, as of September 30, 1975, are:

City of Los Angeles

Duane L. Georgeson
Wells O. Abbott, Jr. (Alternate)
Bruce W. Kuebler
Melvin L. Blevins, Secretary (Alternate)

City of Glendale

William H. Fell
Steven J. Meyerhofer (Alternate)

City of Burbank

Warren D. Hinchee
Martindale Kile, Jr. (Alternate)

City of San Fernando

Robert James, Chairman
Stuart E. Bergman (Alternate)

Crescenta Valley County Water District

Robert K. Argenio (Alternate)

The Advisory Board may be convened by the Watermaster at any time in order to seek its advice. In addition, the Advisory Board is responsible for reviewing with the Watermaster the proposed annual budget and annual report.

During the 1974-75 water year, the Advisory Board was convened on February 10, 1975.

The meeting of February 10th was convened to discuss the following items:

1. Annual Report for 1973-74.

2. Budget for 1975-76.

3. DWR's 1973 Land Use Survey.

4. Conjunctive Use of Ground Water Storage in San Fernando Basin.

5. Water Quality Report for ULARA.

6. Status of Reclaimed Water in ULARA.

In addition to the Advisory Board meeting, the Cyclic Storage Committee met four times to discuss the current study regarding storage of State Water project water (see page).

ummary of 1974-75 Operating Conditions

Rainfall in the valley fill area was 90% of normal and was 6 percent less than the year before. With the exception of 1972-73, the last six years have experienced below normal rainfall. Runoff decreased by 23 percent, reducing by 7 percent the amount of water conserved by LACFCD in its spreading basins.

Overall, extractions increased by 6 percent and were above the combined Restricted Rights of the three basins. Ground water extractions in Sylmar and Verdugo Basins did not exceed the Restricted Rights therein. Imports were down by 1 percent (4,200 acre-feet), and exports decreased by 2 percent (5,200 acre-feet).

Water levels at key wells reflect a slight drop and stabilization of levels throughout most of the Basin. Levels have dropped since the early 1940's from 0-10 feet in Canoga Park to 140 to 160 feet in the area between Cities of Glendale and Burbank. Levels have not changed as drastically at the Narrows and Verdugo Basin. Sylmar Basin levels have dropped by 50-60 feet since the early 1940's.

Water quality in the Basins ranges from good to excellent. Recent data show that quality changes appear to have stabilized in the eastern portion of the San Fernando Basin and slowed in the western. This does not apply to Verdugo and Sylmar Basins and the L.A. Narrows.

Eleven parties exceeded their Restricted Pumping rights in 1974-75. Six of the eleven parties were in violation as a result of having a zero water right or having a deficit carryover from 1973-74. The Watermaster approved overextractions and carryover in excess of permissible limits in three cases after having received the Advisory Board's concurrence.

The Watermaster processed nine assignments of water rights in ULARA. Expenditures for Watermaster Service increased by less than 2 percent and amounted to $0.23 per acre-feet of ground water extracted.

Table 1 compares statistics for this period of record and the prior water year.

TABLE I. SUMMARY OF OPERATING CONDITIONS

Item	Water Year 1973-74	Water Year 1974-75
Parties	27	26
Active pumpers	20	19
Active nonparties (within valley fill)	3	3
Restricted Pumping, in acre-feet	104,040	104,040
Watermaster expenses (fiscal year)	$25,678.28	$26,113.52
Watermaster expenses per acre-foot pumped	$ 0.24	$ 0.23
Valley rainfall, in inches	15.75	14.74
Spreading Operations, in acre-feet		
LACFCD	10,283	9,495
Los Angeles, City of	6,205	13,291
Extractions, in acre-feet	105,208	111,966
Imports, in acre-feet		
Colorado River water	6,606	4,590
Owens River water	446,059 a/	440,810
Northern California water	22,884	25,929
Delivered to hill and mountain areas, in acre-feet	49,582 a/	50,566
Exports, in acre-feet		
Owens River water	232,204 a/	227,048
Sewage	110,173	113,037

a/ Last year's figure was updated.

II. WATER SUPPLY CONDITIONS

ULARA depends on many water sources to meet demand brought by rapid growth of industry and population. At present, the water supply of ULARA consists of: precipitation on the watershed which includes portions of the San Gabriel, Verdugo, Santa Monica, and Santa Susana Mountains; ground water that is in storage in the four basins; imports from the Mono Basin-Owens River system; imports from the Colorado River; and water from northern California made available by the State Water Project.

recipitation

ULARA has the climate of an interior coastal valley and is hotter in the summer and wetter in the winter than the coastal areas which have a Mediterranean type climate.

Precipitation varies considerably throughout ULARA, depending on topography and elevation. Mean seasonal precipitation ranges from about 14 inches at the western end of the San Fernando Valley to 35 inches in the San Gabriel Mountains. Approximately 80 percent of the annual rainfall occurs from December through March.

Precipitation in the valley and in the hills and mountains is evaluated separately. The valley is made up of the four ground water basins, whereas the hills and mountains comprise the remaining areas in ULARA. Precipitation in the hills and mountains is evaluated to relate the runoff from the watersheds of Big Tujunga, Pacoima Creek, and Sycamore Canyon, to the runoff records which are included in this report and also to evaluate the ground water recharge. (See Plate 2 for location of precipitation stations.)

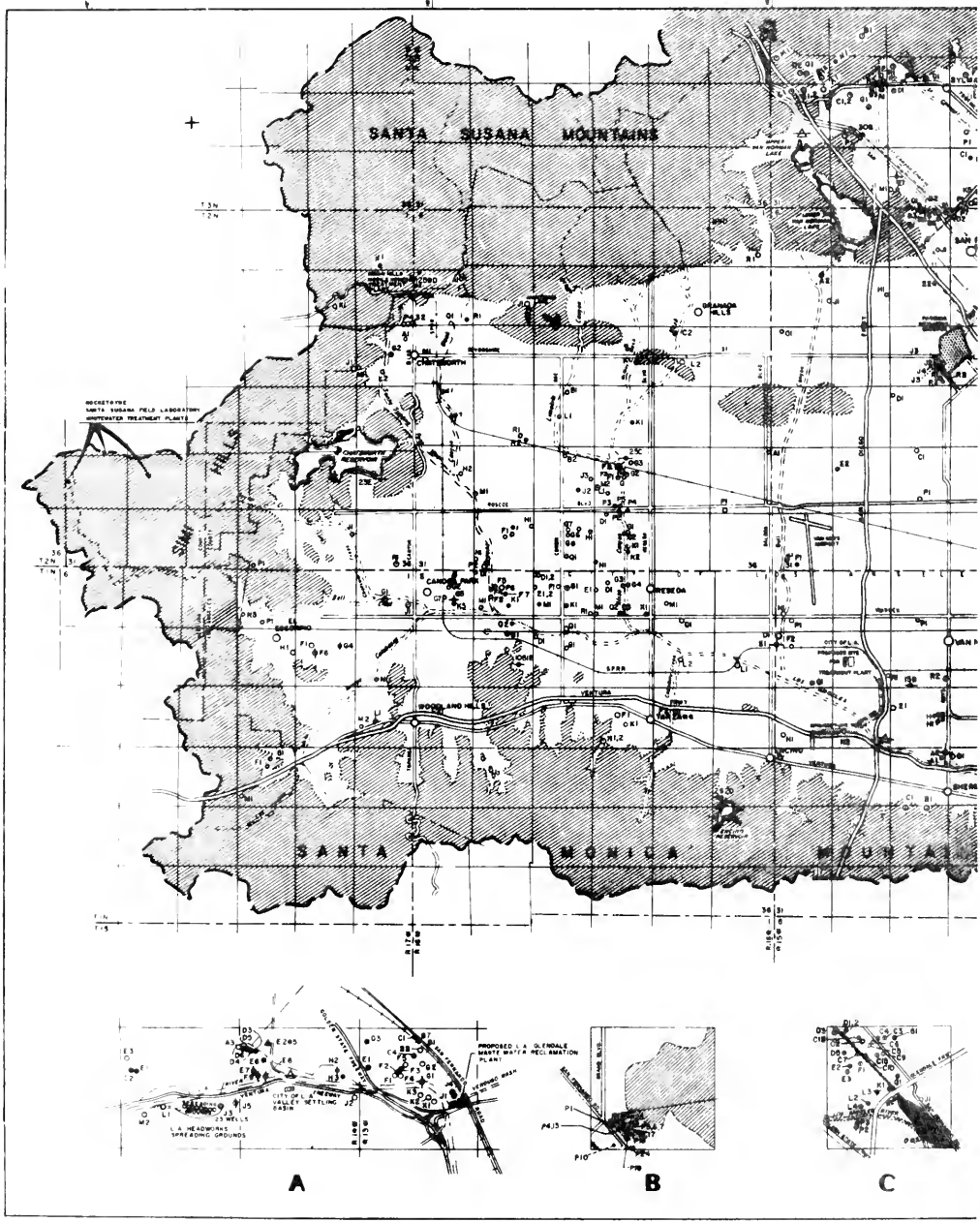
The 1974-75 water year experienced below average rainfall. Rainfall in ULARA decreased to 16.98 inches, a drop of 1 inch from last year. On the average, about 14.74 inches of rain fell on the valley floor, whereas the mountains received approximately 19.14 inches. The 90-year (1881-1971) average precipitation for the valley and mountains is 16.45 and 21.35 inches, respectively.

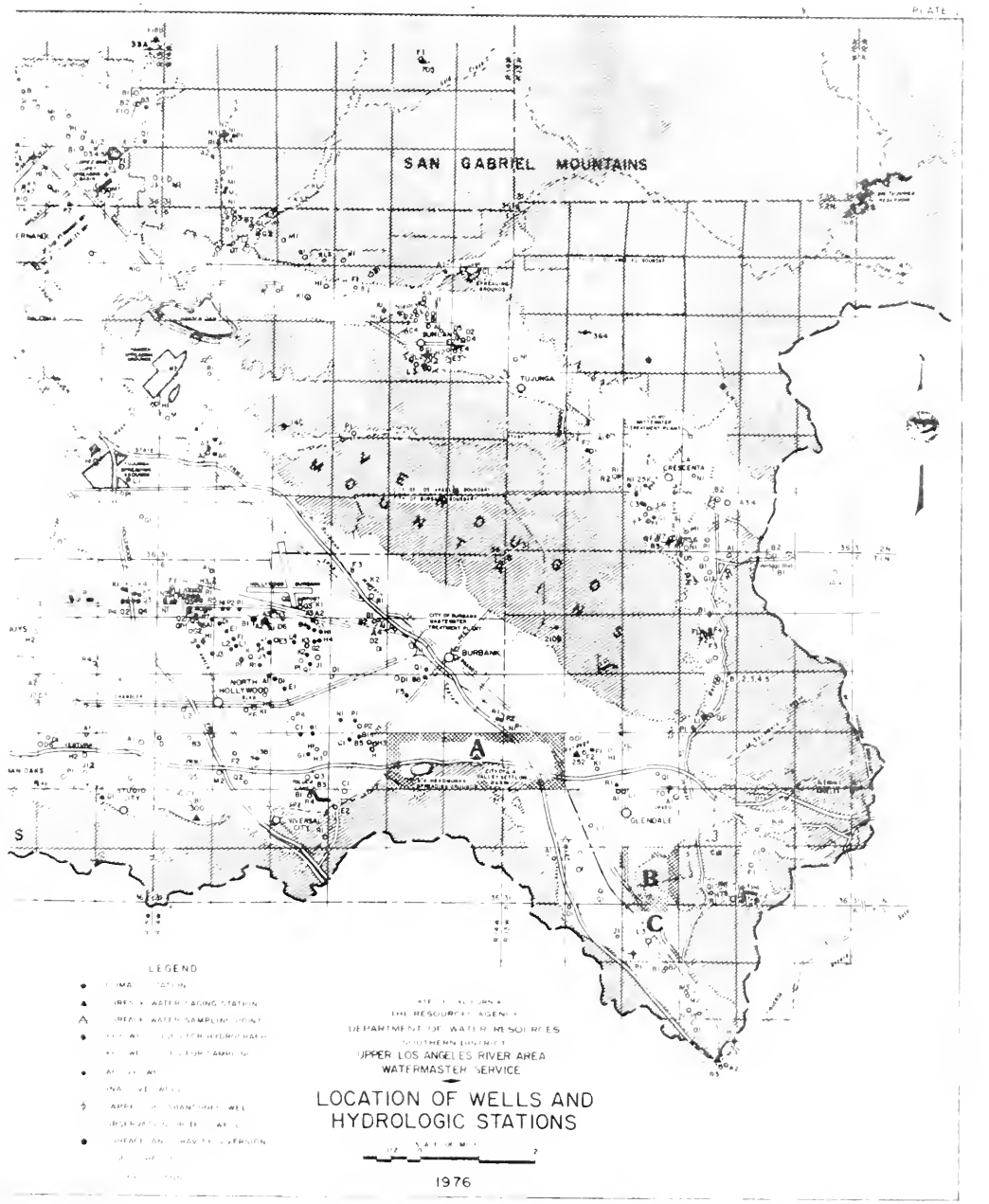
Table 2 presents a record of rainfall at 22 key precipitation stations which were used to develop the 90-year average rainfall and are described in the Report of Referee.

TABLE 2. PRECIPITATION [a]
(in inches)

Station		90-year mean	1973-74 precipitation	1974-75	
LACFCD Number	Name			Precipitation	Percent of 90-year mean
11C	Upper Franklin Canyon Reservoir [b]	18.31	19.60	16.57	90
13B	North Hollywood [c]	16.69	17.48	14.73	88
14C	Roscoe-Mezrill [d]	15.02	16.86	14.07	94
15A	Van Nuys [e]	15.07	15.27	15.12	100
17	Sepulveda Canyon	19.07	20.82	18.90	99
23B-E	Chatsworth Reservoir [c]	14.57	14.43	12.99	89
25C	Northridge-Andreve [c]	14.52	13.80	13.79	95
29D	Granada Pump Plant	17.33	17.22	16.09	93
30B	Sylmar [c]	16.66	16.89	16.92	102
33A-E	Pacoima Dam	18.72	16.91	16.72	89
47D	Clear Creek City School	30.59	28.15	25.28	83
53D	Colby's Ranch	29.75	21.29	20.44	69
54C	Loomis Ranch-Alder Creek	20.47	18.40	12.80	63
210B	Brand Park	18.71	18.36	16.34	87
251C	La Crescenta [c]	23.50	21.56	20.08	85
259D	Chatsworth Patrol	17.88	16.24	16.60	93
364	Haines Canyon-Lower	24.06	21.39	19.07	79
470	Tujunga-Mill Creek	16.94	13.96	13.88	82
703	Olendale-McIntyre [f,d]	17.65	16.68	15.81	90
705	Paradise Ranch-Alder Creek	18.93	19.33	23.34 [e]	123
1051B	Canoga Park [f]	14.39	15.79	13.92 [f]	97
1074	Little Gleason [g]	24.65	23.23	24.30	99

a/ Data furnished by Los Angeles County Flood Control District (LACFCD).
b/ Substituted for Franklin Canyon Station No. 12.
c/ Valley Station.
d/ Substituted for Olendale Station 29NG.
e/ Substituted by Pacoima Canyon - City Road Gage
f/ Substituted by Woodland Hills Station 21B.
g/ Substituted for Santa Clara Ridge Station No. 419.


SANTA SUSANA MOUNTAINS
SIMI HILLS
SANTA MONICA MOUNTAINS
ROCKETDYNE
SANTA SUSANA FIELD LABORATORY
WASTEWATER TREATMENT PLANTS
CHATSWORTH
CHATSWORTH RESERVOIR
GRANADA HILLS
CANOGA PARK
RESEDA
WOODLAND HILL
VENTURA
SFRR
CITY OF L.A.
PROPOSED L.A. GLENDALE
MARYE WATER RECLAMATION
PLANT
CITY OF L.A.
VALLEY SETTLING
BASIN
L.A. HEADWORKS
SPREADING GROUNDS
23 WELLS
A
B
C


SAN GABRIEL MOUNTAINS
TUJUNGA
CRESCENTA
BURBANK
NORTH HOLLYWOOD
GLENDALE
A
B
C
LEGEND
DEPARTMENT OF WATER RESOURCES
UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE
LOCATION OF WELLS AND
HYDROLOGIC STATIONS
1976

Runoff and Outflow from ULARA

The drainage area of ULARA contains 329,137 acres, of which 205,709 acres are hills and mountains. The drainage system, in turn, is made up of the Los Angeles River and its tributaries. Surface flow in spring originates as: storm runoff from the hills and mountains; storm runoff from the impervious areas of the valley; operational spills of imported water; industrial and sanitary waste discharges; and rising water.

Urbanization of the area has rapidly increased the flow discharge rates in much of ULARA and it is important to keep abreast of such change and its effect on the ground water basins.

A number of stream-gaging stations are maintained throughout ULARA, either by LACFCD or U. S. Geological Survey (USGS). The Watermaster has selected six key gaging stations which, in effect, record major runoff from hydrologic areas in ULARA.

Table 3 summarizes the monthly flows for each gaging station and compares the 1973-74 water year with the 1974-75 year. The decrease in runoff reflects the decrease in rainfall in both the mountain and valley areas.

TABLE 3. MONTHLY RUNOFF AT SELECTED GAGING STATIONS [a/]
(in acre-feet)

Station	Water Year	Month												Total
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
57C-F	1973-74	1,240	7,310	3,510	53,030	827	17,550	1,560	956	762	700	727	639	88,811
(Los Angeles River)	1974-75	2,430	596	16,920	745	11,658	21,372	6,635	827	640	626	679	1,013	64,141
262-F	1973-74	132	779	347	3,420	218	1,460	280	147	149	199	120	132	7,383
(Verdugo Channel)	1974-75	272	134	1,190	151	1010	1,860	454	109	128	119	86	75	5,588
E285-F	1973-74	412	930	481	3,720	360	1,910	492	557	489	460	437	473	10,721
Burbank Storm Drain)	1974-75	459	377	1,480	474	921	1,610	658	633	571	615	641	680	9,119
300-F	1973-74	713	3,940	2,710	30,150	789	10,000	949	807	775	725	638	631	52,827
(L.A. River at Tujunga Ave.)	1974-75	1,550	452	10,880	539	6,650	13,280	4,460	743	816	665	639	640	41,314
168-F	1973-74	485	119	12	1,641	537	747	595	453	349	273	172	473	5,856
(Big Tujunga Dam)	1974-75	2,890	442	58	6	10	144	2,460	374	361	358	369	953	8,425
118B-F	1973-74	63	55	69	1,730	264	1,270	357	173	99	6	12	53	4,151
(Pacoima Dam)	1974-75	6	6	73	6	6	853	783	272	6	6	446	60	2,523

a/ Figures shown are rounded off; for details see Appendix C.

The records presented herein will keep the parties informed as to the magnitude of runoff from these various areas. The stations selected for this purpose are:

Station 57C registers all surface outflow from ULARA.

Station 118B registers all releases from Pacoima Dam that originate in Pacoima Canyon. Runoff below this point flows to the Lopez and Pacoima spreading grounds and on down to the Los Angeles River.

Station 168 registers all releases from Big Tujunga Dam, which collects runoff from Tujunga Canyon northeasterly of the Dam. Runoff below this point flows to Hansen Dam.

Station 252 registers flow from Verdugo Canyon plus flows from Dunsmore and Pickens Canyons.

Station E-285 registers flow from the westerly slopes of Verdugo Mountains and some flow east of Lankershim Boulevard. It also records any releases of reclaimed waste water discharged by the City of Burbank.

Station 300 registers all flow west of Lankershim Boulevard plus outflow from Hansen Dam that is not spread. These records also include releases from Sepulveda Dam, which may include extractions from Reseda Wells.

The locations of these key gaging stations are shown on Plate 2. The mean daily discharge rates for these six gaging stations during 1974-75 are summarized in Appendix C.

At the request of the Advisory Board, the Watermaster has attempted to compute the surface flow of the Los Angeles River at gaging station F-57C as to the sources, i.e., storm runoff from precipitation, Owens River water, rising water, or industrial and reclaimed waste water discharges. The Watermaster utilized the procedures outlined in the Report of Referee for estimating the approximate flow rates and sources of water passing gaging station F-57C. A similar request was made for station F-252. A summary of the procedures used follows and a tabulation of the computed flows is shown in Table 4.

TABLE 4. SEPARATION OF SURFACE FLOW AT STATIONS F-57C AND F-252
(in acre-feet)

Period	Base low flow		Surface Runoff		Total
	Rising Water	Waste Discharge	Owens River	Net Storm	Measured Outflow
Station F57C-R					
1970-71	2,556 a/	8,856	12,978	68.920	93,310
1971-72	3,602 a/	8,219	0	35,049	46,870
1972-73	4,596 a/	8,776	0	100,587	113,959
1973-74	2,694 a/	6,366	0	79,818	88,878
1974-75	427 a/	7,318	0	56,396	64,141
29-year average 1929-57	6,810	770	1,580	30,790	39,940
Station F252-R					
1970-71	2,881	0	0	4,805	7,686
1971-72	2,050	0	0	2,513	4,563
1972-73	1,706	0	0	7,702	9,408
1973-74	1,772	0	0	5,613	7,385
1974-75	1,333	0	0	4,255	5,588

a/ May include rising water past rubber dam at Headworks Spreading grounds, Verdugo Channel, and L. A. River Narrows

The base low flows were separated from the surface runoff by the use of the hydrographs of Station F-57C. Base flows consist of rising water and industrial waste plus sewage. The separation of these two components is based on the following assumptions:

Rising water equals base low flow minus the sum of industrial waste and sewage. Industrial wastes are estimated from City of Los Angeles waste permits and the low flows in the Burbank-Western storm drain.

When the City of Los Angeles diverts water at the Headworks, all the rising water is diverted. When there is no diversion, all the rising water percolates upstream from Station F-57C.

The surface runoff obtained from the hydrographs of Station F-57C consists of net storm runoff and Owens River water. The separation of surface runoff into these two components is based on the following assumptions:

Net storm runoff equals surface runoff minus Owens River water.

If the Headworks divert, all releases of Owens River waters are diverted to the Headworks spreading grounds. If the Headworks does not divert, all releases of Owens River waters are considered as passing station F-57C.

Ground Water Recharge

Local precipitation can have a marked influence on the ground water supply and water in storage. However, there is a wide variation in the annual amount of runoff as a result of changes in both precipitation and retentive characteristics of the watershed.

The accelerated urban development in ULARA has resulted in much of the rainfall being collected and routed into paved channels which discharge into the Los Angeles River and subsequently is carried out of the Basin. Plate 2 depicts the lined channels in ULARA.

To somewhat overcome the rapid outflow due to urbanization, Pacoima and Hansen Dams, originally built for flood protection, are currently being utilized to regulate storm flows to recapture the flow in spreading basins operated by LACFCD as well as the City of Los Angeles.

LACFCD operates the Branford, Hansen, Lopez, and Pacoima spreading grounds. The City of Los Angeles, in turn, operates the Tujunga and Headworks spreading grounds. Plate 2 shows the location of these spreading basins. The spreading grounds operated by LACFCD are utilized for spreading native water, whereas the spreading grounds operated by the City of Los Angeles are utilized to spread Owens River and native water, spillage from the Chatsworth Reservoir, ground water effluent, and the discharge from the Reseda wells. Table 5 summarizes the spreading operations for the 1974-75 water year.

TABLE 5. SPREADING OPERATIONS
(in acre-feet)

Month	Native water spread by Los Angeles County Flood Control District				Water Spread by City of Los Angeles				
	Spreading Basins				Tujunga Spreading Grounds		Headworks Spreading Grounds		
	Branford	Hansen	Lopez	Pacoima	Native water	Owens River water	Owens River releases	Reseda wells	Ground water effluent in L.A.River[a]
Oct. 1974	22	1,731	0	42	0	0	0	1	380
Nov.	6	0	0	0	0	0	0	0	262
Dec.	135	0	16	260	0	489	0	0	123
Jan. 1975	[illegible]	0	0	0	0	149	0	0	474
Feb.	111	0	0	423	0	1,943	0	0	94
Mar.	267	1,333	353	991	0	406	0	0	68
Apr.	77	2,359	358	604	0	3,070	0	0	405
May	+	0	152	0	0	310	0	0	541
June	6	0	0	0	0	0	0	0	660
July	6	0	0	0	0	0	0	0	553
Aug.	9	0	36	156	0	1,724	0	0	461
Sept.	20	0	0	0	0	1,130	0	0	48
Totals	681	5,423	915	2,476	0	9,221	0	1	4,069

a/ Includes industrial discharge, ground water effluent, and surface runoff diverted from Los Angeles River to Headworks Spreading Grounds.

+ Denotes insignificant amount.

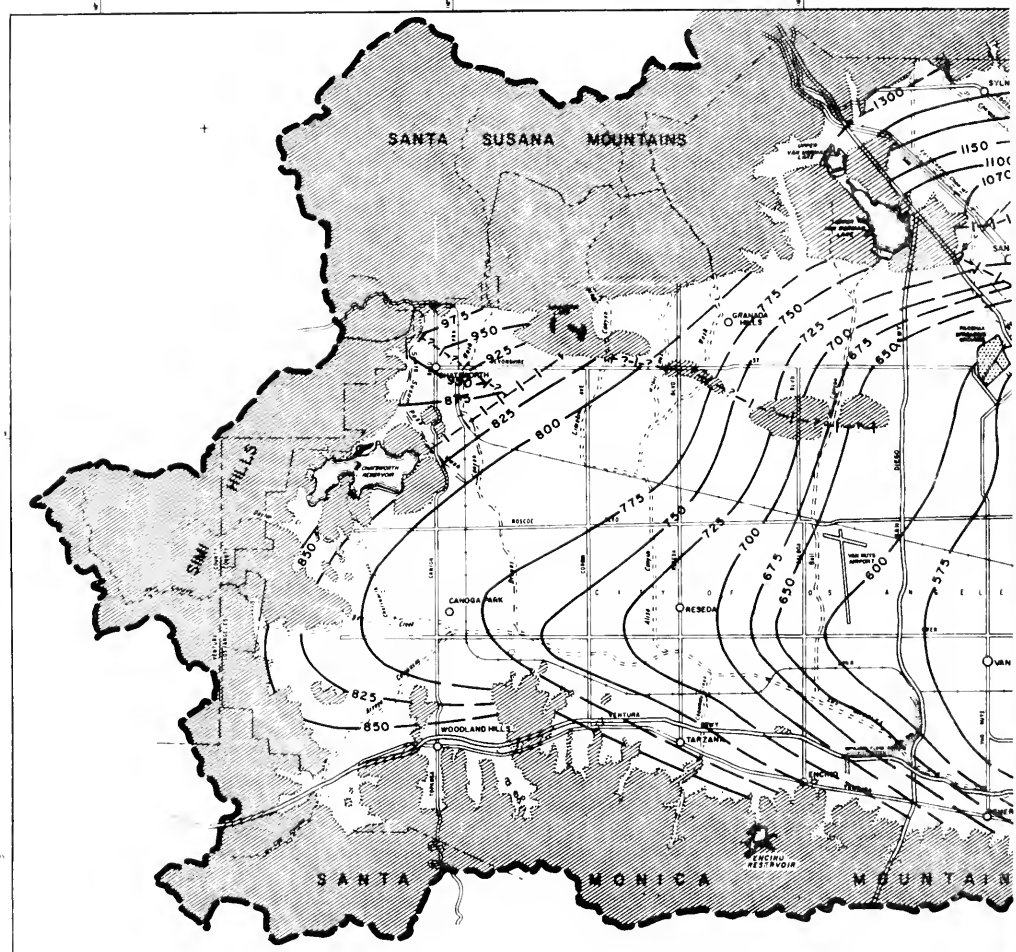
Ground Water Table Elevations

During the 1974-75 water year, the Watermaster collected and processed data to determine prevailing ground water conditions in ULARA during the spring and fall of 1975 (Plates 3 and 4). Data for lines of equal ground water elevation for Sylmar, Chatsworth, and Santa Monica foothills were obtained from the City of Los Angeles and for the remaining area, from LACFCD.

Change in ground water surface elevation from fall of 1974 to fall of 1975 as presented in Plate 5 reflects the effects of variations in spreading, ground water extractions, and rainfall.

The area around Hansen spreading basin shows a drop in ground water elevation due to decreased spreading whereas the areas around Pacoima and Tujunga show a rise due to increased spreading. The area south of Glendale in the Los Angeles Narrows, shows a drop due to increased ground water extraction by Los Angeles at its Pollock Field. The area southeast of Burbank shows a rise despite a small increase in ground water extractions. The areas in the vicinity of Van Nuys and North Hollywood show a drop due to a large increase in ground water extractions.

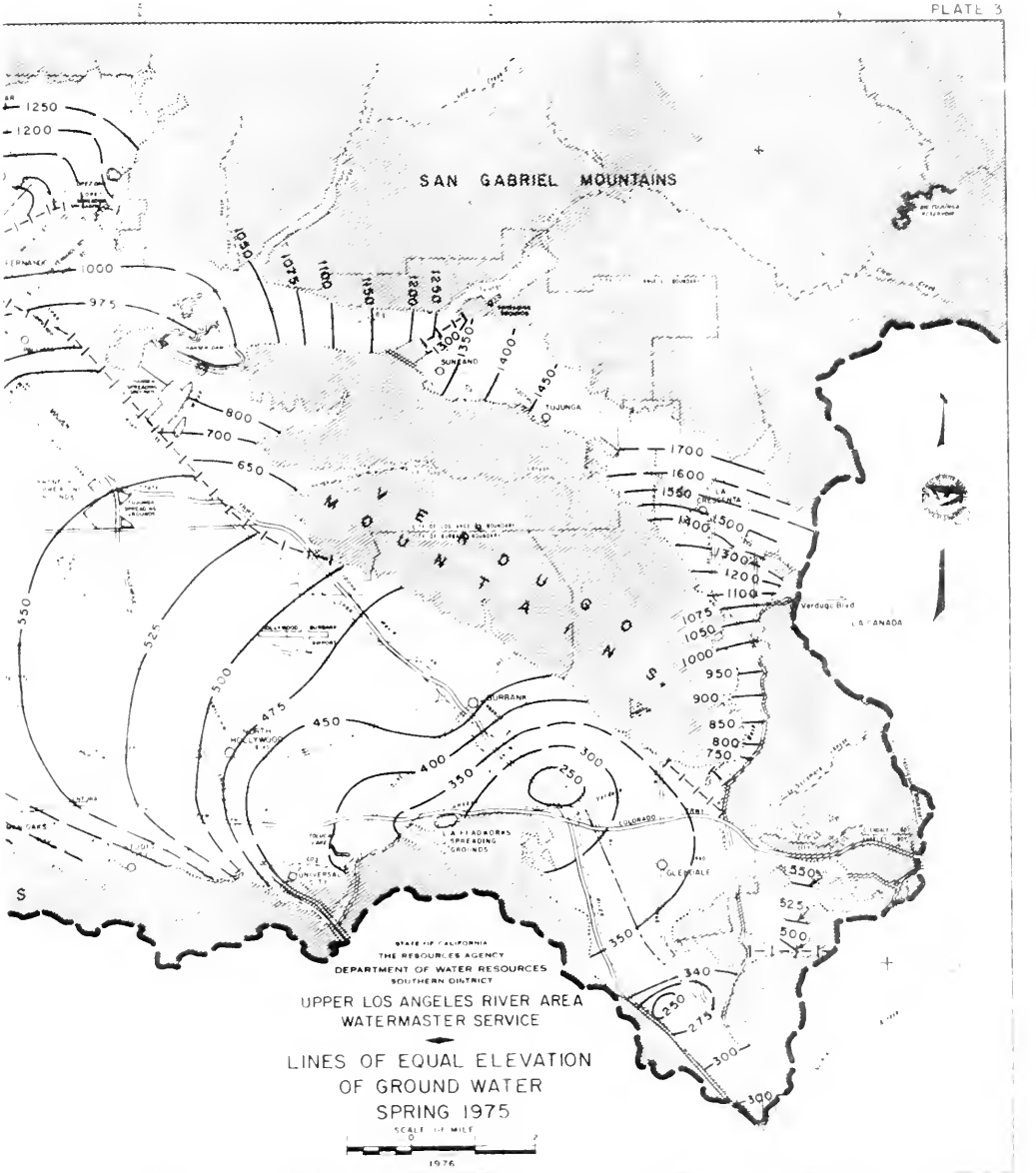
Figures 1 and 2 depict the water levels at key wells and their approximate location are indicated by number shown on map on Figure 2. A more exact location is shown on Plate 2.



LEGEND

- AREA AND DRAINAGE DIVIDE
- IMPEDIMENT TO GROUND WATER FLOW
- EDGE OF ALLUVIUM
- CITY BOUNDARY
- —850— LINES OF EQUAL ELEVATION OF GROUND WATER

PLATE 3



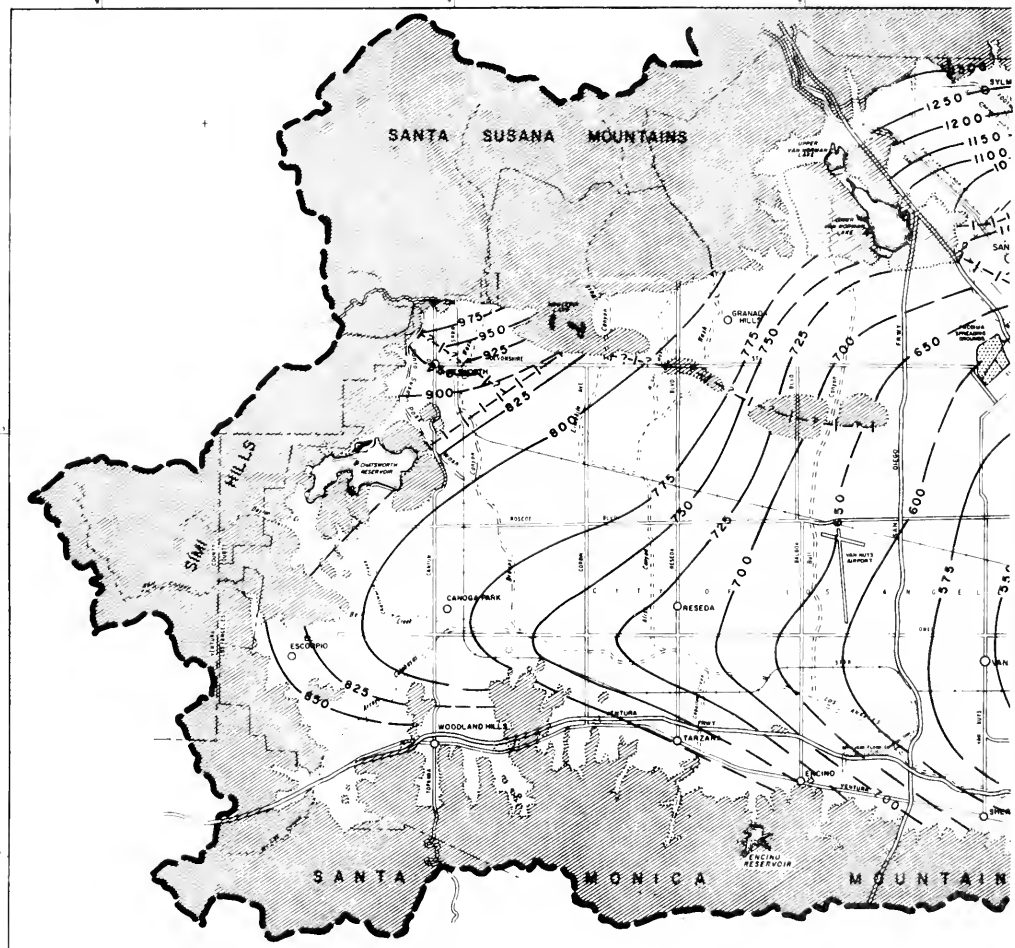
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT

UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE

LINES OF EQUAL ELEVATION
OF GROUND WATER
SPRING 1975

SCALE 1" = 1 MILE

1976



LEGEND

AREA AND DRAINAGE DIVIDE

IMPEDIMENT TO GROUND WATER FLOW

EDGE OF ALLUVIUM

CITY BOUNDARY

—850— LINES OF EQUAL ELEVATION OF GROUND WATER

PLATE 4

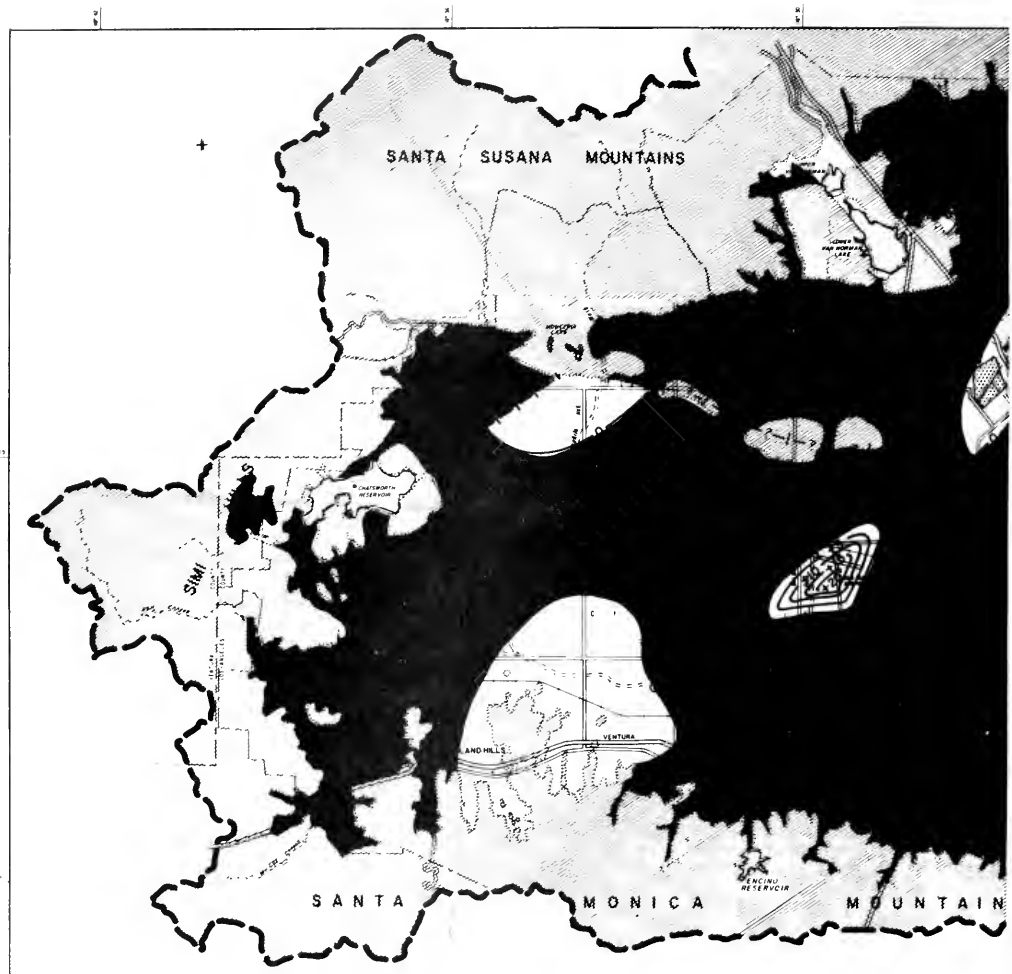
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT

UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE

LINES OF EQUAL ELEVATION
OF GROUND WATER
FALL 1975

SCALE OF MILES
0 1 2

1976



LEGEND

AREA AND DRAINAGE DIVIDE

IMPEDIMENT TO GROUND WATER FLOW

EDGE OF ALLUVIUM

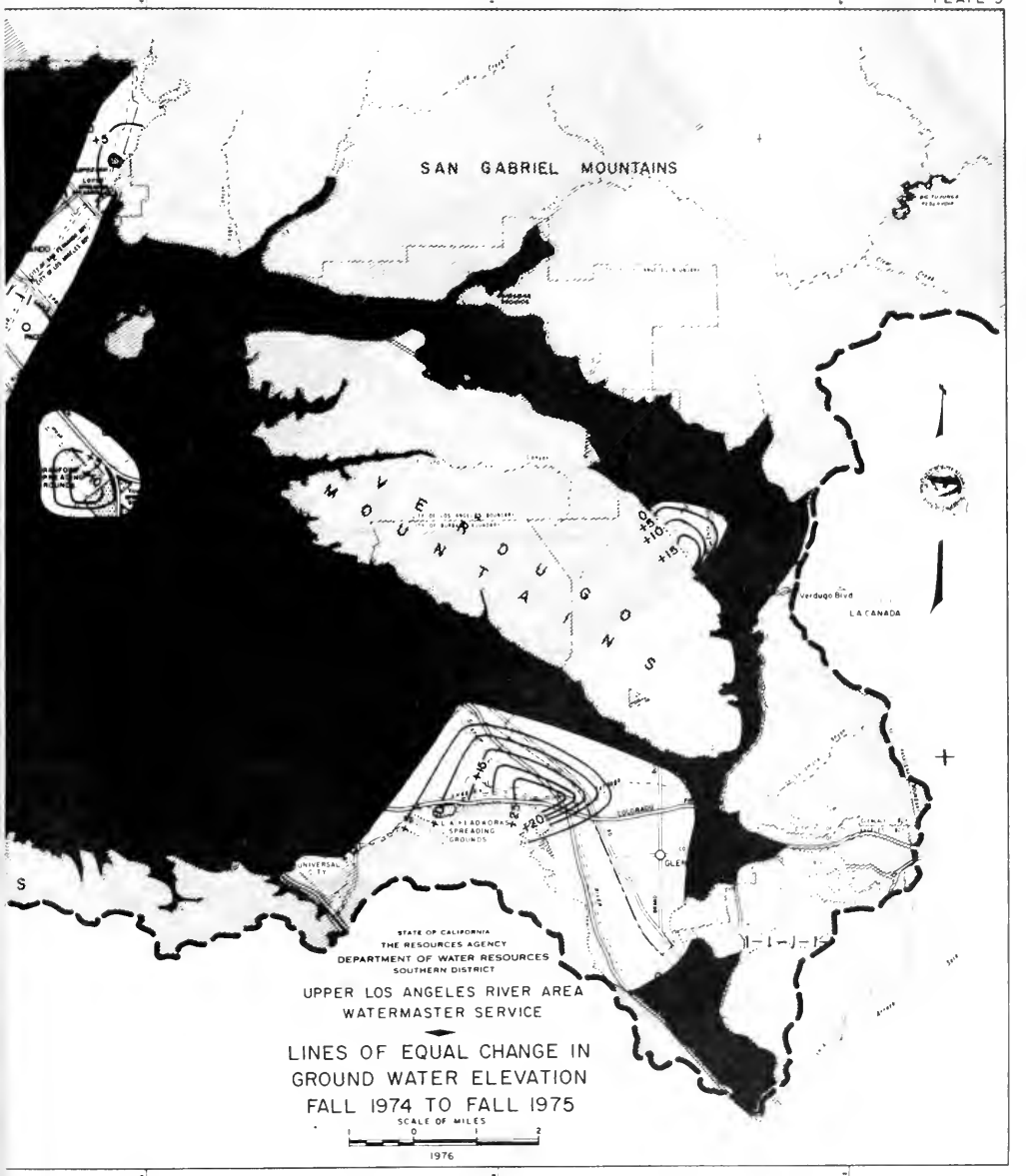
CITY BOUNDARY

LINES OF EQUAL CHANGE IN GROUND WATER ELEVATION

AREA OF RISE IN WATER LEVELS

AREA OF DROP IN WATER LEVELS

PLATE 5


SAN GABRIEL MOUNTAINS
MONTAGNES
+5
+10
+15
+20
Verdugo Blvd
LA CANADA
LA CANADA SPREADING GROUNDS
UNIVERSAL CITY
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE
LINES OF EQUAL CHANGE IN
GROUND WATER ELEVATION
FALL 1974 TO FALL 1975
SCALE OF MILES
1 0 1 2
1976

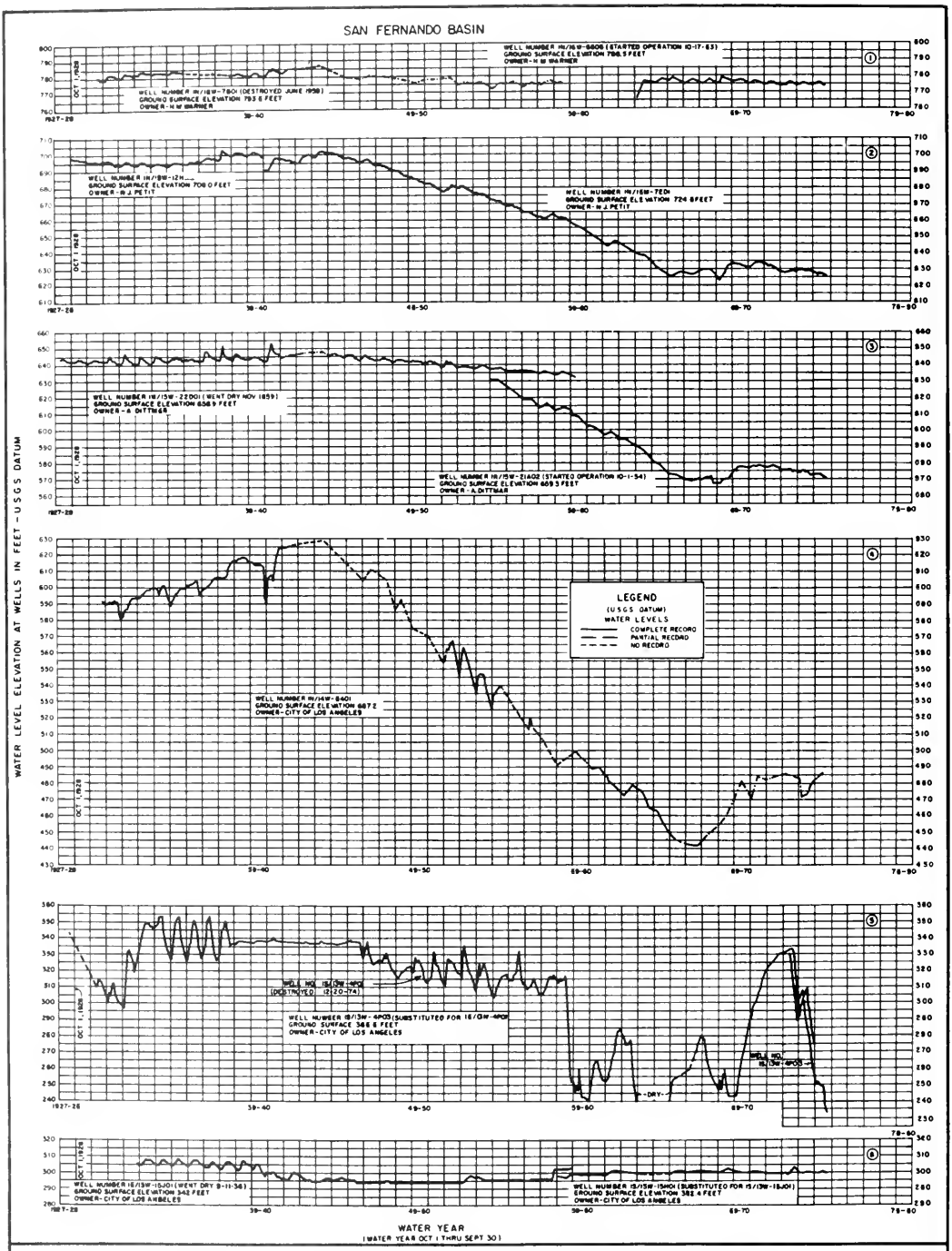


Figure 1—FLUCTUATION OF WATER LEVEL ELEVATION AT WELLS IN THE SAN FERNANDO BASIN

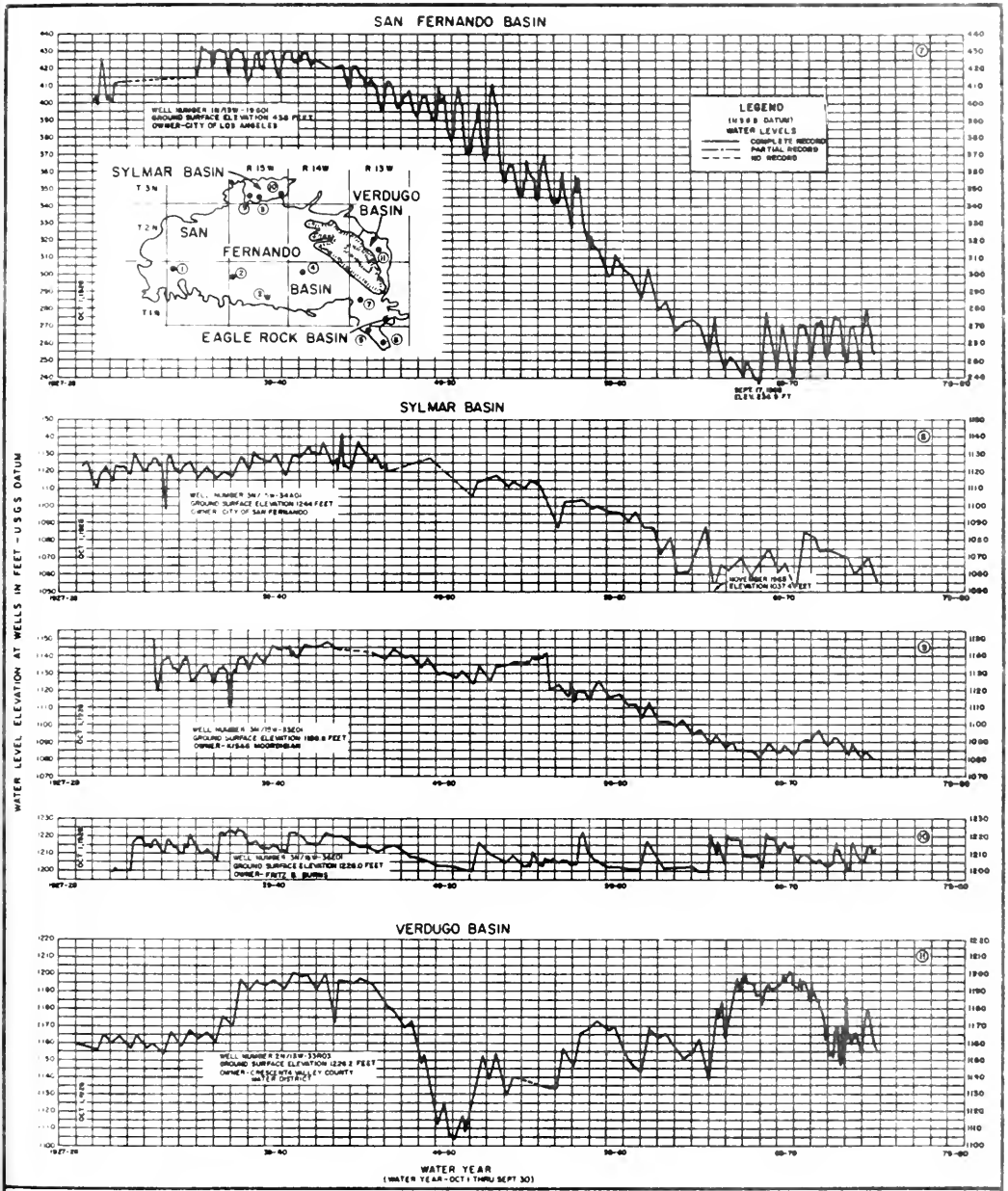


Figure 2 – FLUCTUATION OF WATER LEVEL ELEVATION AT WELLS IN THE SAN FERNANDO, SYLMAR AND VERDUGO BASINS

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1976

Waste Water Reclamation

The reclamation of waste water could provide a source of water for irrigation, industrial, recreational, and possibly, domestic use. Seven waste water treatment plants are in operation in ULARA, one is under construction and another is being considered (Plate 2). A tabulation of the operating waste water reclamation plants is shown in Table 6.

The Los Angeles-Glendale Waste Water Reclamation Plant project is now expected to begin operations sometime between March and June 1976. Treatment capacity will be 20 million gallons per day (mgd), with 7.5 mgd for irrigation and fire protection, 2.5 mgd to the City of Glendale for its steam plant cooling water, and 10 mgd discharged into the Los Angeles River.

TABLE 6. WASTE WATER RECLAMATION PLANTS

Plant	Quantity Treated in acre-feet
San Fernando Basin	
City of Burbank	5,319 a/
City of Los Angeles Valley Settling Basins	1,019 b/
Indian Hills Mobil Homes	21 c/
Rocketdyne (Santa Susana Field Laboratory)	52 d/
The Independent Order of Foresters	15 c/
Verdugo Basin	
Crescenta Valley County Water District	103 c/

a/ Cooling towers used 1,764 acre-feet, balance to Los Angeles River.
b/ DWP used 35 acre-feet for percolation test at Headworks, balance to city sewer.
c/ Used for land irrigation.
d/ Plant 1: 0.3 acre-feet, Plant 2: 52 acre-feet.

The design of the Sepulveda Basin Water Reclamation plant has been completed. It provides for a plant capacity of 40 mgd, with treated effluent being used for irrigation of the Sepulveda Basin recreation area and being available for ground water recharge. The project will not proceed until the Environmental Protection Agency completes an assessment of facilities' needs and approval of State and Federal construction grants has been received.

Water Quality

Water resources management must take into account water quality in analyzing water supply factors. Water quality is in constant flux as a result of changes in the water supply environment. Monitoring changes in water quality is important because it serves as a measure of natural phenomena and the effectiveness of management plans.

Imported Water

A. Owens River and Mono Basin water is of excellent quality, being sodium bicarbonate in character. Its total dissolved solids (TDS) averaged about 214 milligrams per liter (mg/l) for 30 years before 1969, the highest record being 322 mg/l, on April 1, 1946, and the lowest, 149 mg/l, on September 17, 1941. Average TDS for 1974-75 was slightly higher than for 1973-74.

B. Colorado River water is predominately sodium-calcium sulfate in character, changing to sodium sulfate after treatment to reduce total hardness. Samples taken at the Burbank turnout between 1941 and 1973 indicated a TDS high of 875 mg/l in August 1955 and a low of 625 mg/l in April 1959. The average over the 32-year period is approximately 743 mg/l. During the 1974-75 water year, a program of blending State Project water with Colorado River water was begun. The beneficial effect of this program is shown by a decrease of 163 mg/l TDS at Eagle Rock Reservoir.

C. Northern California water is of sodium-calcium bicarbonate-chloride-sulfate in character. It generally contains less TDS and will be softer than local and Colorado River water. TDS averaged 274 mg/l and hardness averaged 139 mg/l during 1974-75, much better in quality than the prior year. Water quality should improve as storage in Castaic Reservoir is increased.

Surface Water

Surface runoff contains salts dissolved from rocks in the tributary areas. Surface water is calcium bicarbonate in character. In 1974-75, low flows above the Los Angeles Narrows had an average TDS content of 818 and a total hardness of 370 mg/l.

Ground Water

The character of ground water from the major water-bearing formations is of two general types, each reflecting the composition of the surface runoff in the area. In the western part of ULARA, it is calcium sulfate in character, while in the eastern part, including Sylmar and Verdugo Basins, it is calcium bicarbonate. Ground water in ULARA is moderately hard to very hard.

Ground water is generally within the recommended limits of the USPHS Drinking Water Standards, except perhaps for wells in the western end of the valley having excess concentrations of sulfate and those in the lower part of the Verdugo Basin having abnormally high concentrations of nitrate.

Water quality studies indicate that, except for short periods, the quality of imported water from Owens River and Mono Basin and northern California is superior to local water. A comparison of the various water sources as to TDS, sulfate, and chloride content is shown in Figure 3. Representative mineral analyses of imported surface, and ground waters for 1974-75 are contained in Table 7. (Note: Records for water from the State Water Project are shown on a monthly basis since use commenced in May of 1972.)

City of Los Angeles' water quality data indicate that the long term trend of increasing TDS in ground water has changed significantly since the inception of Watermaster management. Water quality changes appear to have stabilized in the eastern portion at the San Fernando Basin and slowed in the western portion.

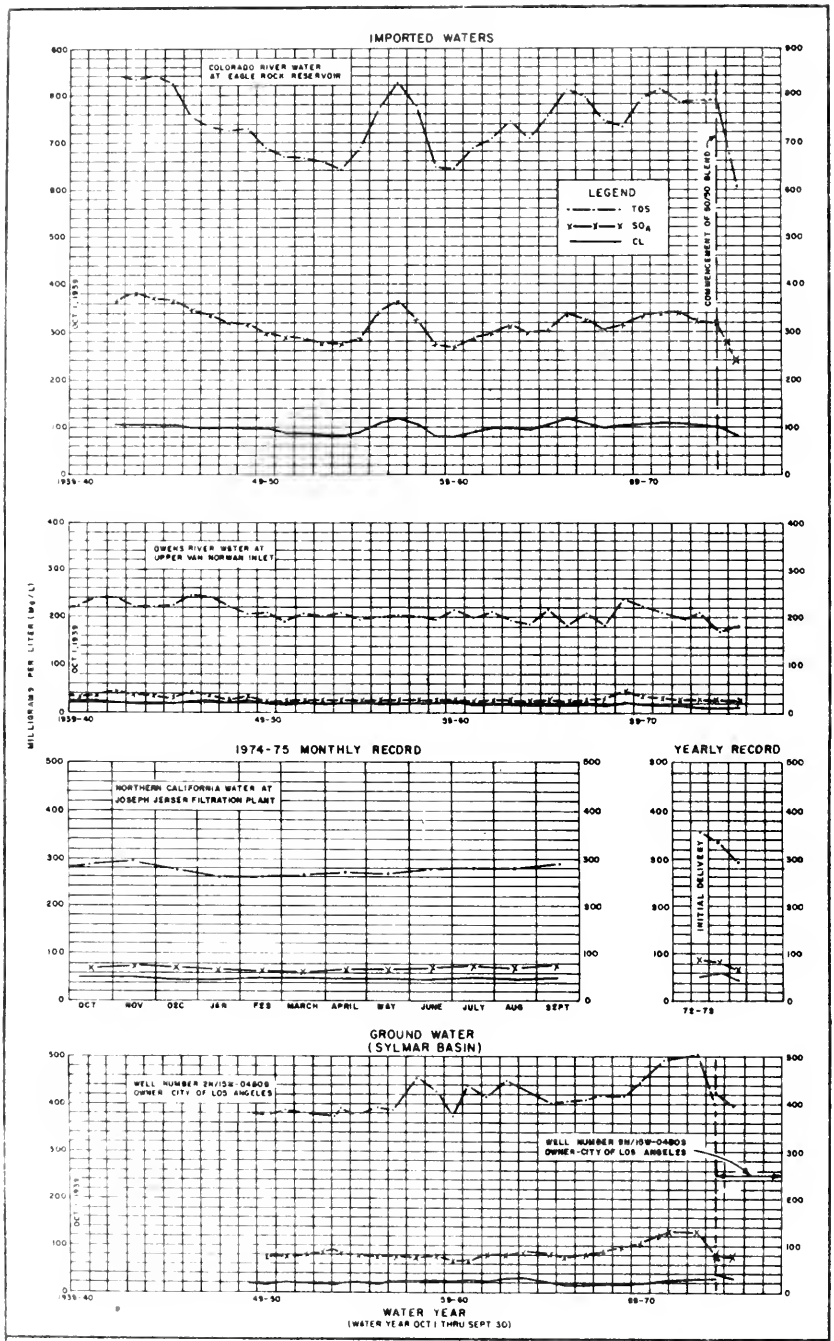


Figure 3 - TOTAL DISSOLVED SOLIDS, SULFATE, AND CHLORIDE OF WATER SOURCES IN ULARA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1976

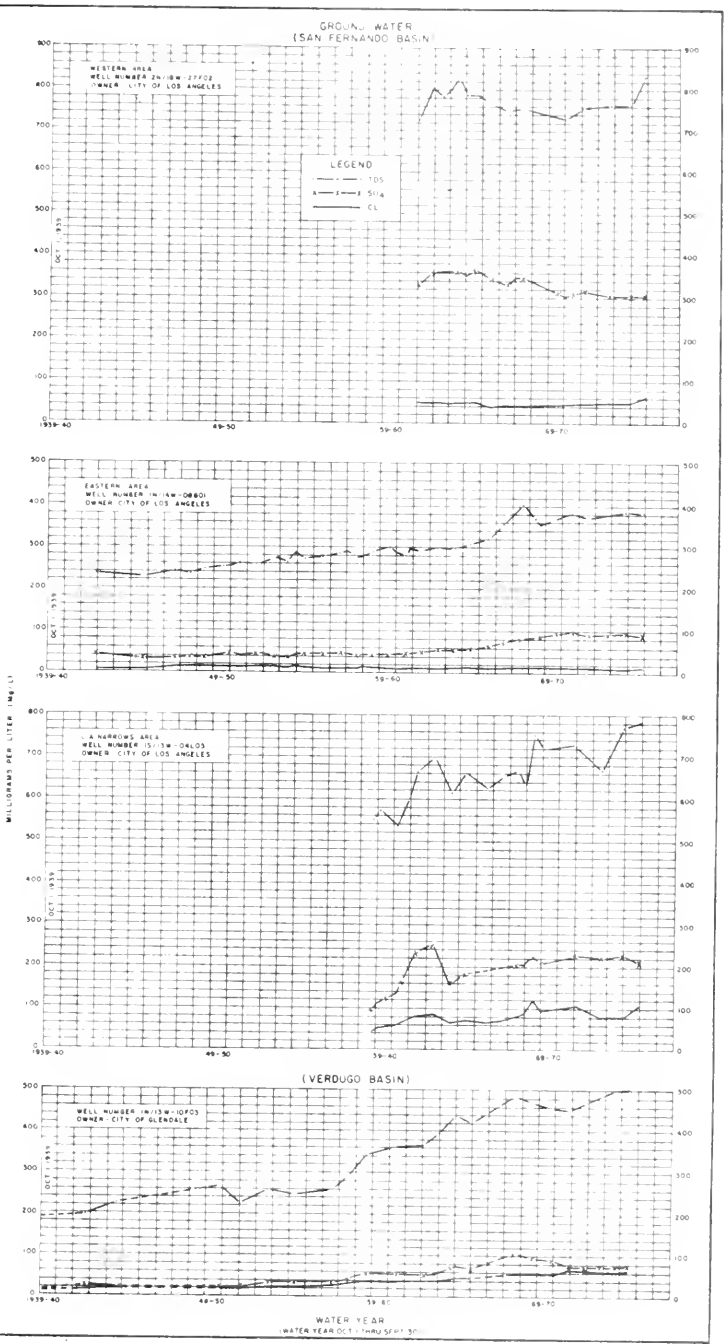


Figure 3 (Cont.) - TOTAL DISSOLVED SOLIDS, SULFATE, AND CHLORIDE OF WATER SOURCES IN ULARA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT 1976

TABLE 7. REPRESENTATIVE MINERAL ANALYSES OF WATER

Well number or source	Date sampled	ECx10^6 at 25°C	pH	Mineral constituents in Milligrams per liter (mg/l) / Milliequivalents per liter (me/l): Ca	Mg	Na	K	CO_3	HCO_3	SO_4	Cl	NO_3	F	B	Total dissolved solids mg/l	Total hardness as $CaCO_3$ mg/l
IMPORTED WATERS																
Blended State Project and Colorado River Water at Castaic Lake Reservoir	1974-75 (average)	986	8.16	40 / 1.98	14 / 1.16	146 / 6.34	3.8 / 0.10	1.0 / 0.03	143 / 2.34	239 / 4.97	82 / 2.30	1.8 / 0.02	0.30 / 0.02	0.23 / 0.07	605	158
West Branch Water at Upper Van Norman Reservoir Inlet	1974-75 (average)	303	8.18	23 / 1.15	5.1 / 0.42	29 / 1.27	2.9 / 0.08	0.9 / 0.03	126 / 2.10	23 / 0.48	12 / 0.34	0.6 / 0.01	0.53 / 0.03	0.33 / 0.09	181	78
State Project Water at Joseph Jensen Filtration Plant (Effluent)	1974-75 (average)	476	838	33 / 1.68	13.3 / 1.09	41 / 1.80	2 / 0.05	2 / 0.06	104 / 1.72	68 / 1.43	49 / 1.38	0.4 / 0.01	0.25 / 0.02	0.21 / --	274	139
SURFACE WATER																
Los Angeles River at Sepulveda Blvd.	12-11-74	1,400	8.21	141 / 7.05	50 / 4.12	91 / 3.96	6 / 0.16	2.6 / 0.09	336 / 5.52	358 / 7.46	89 / 2.51	13 / 0.21	—	—	836	556
	5-7-75	1,580	8.64	115 / 5.75	52 / 4.28	154 / 6.70	7 / 0.18	3.8 / 0.13	182 / 2.98	185 / 3.86	12 / 0.34	10 / 0.16	—	—	1,074	500
Los Angeles River at Burbank-Western Wash	12-11-74	1,000	7.87	56 / 2.80	20 / 1.65	98 / 4.27	14 / 0.36	0.8 / 0.03	224 / 3.67	156 / 3.25	77 / 2.18	47 / 0.76	—	—	608	220
	5-7-75	868	8.91	58 / 2.90	18 / 1.49	78 / 3.40	11 / 0.29	10 / 0.33	244 / 3.99	118 / 2.46	62 / 1.75	8.4 / 0.14	—	—	546	218
Los Angeles River at Brazil Street	12-11-74	1,420	8.22	131 / 6.55	39 / 3.21	86 / 3.74	7.5 / 0.20	1.8 / 0.06	228 / 3.74	382 / 7.96	111 / 3.14	38 / 0.62	—	—	910	486
	5-7-75	1,130	8.38	86 / 4.30	33 / 2.72	108 / 4.70	7.4 / 0.19	2.6 / 0.09	227 / 3.72	244 / 5.09	101 / 2.85	84 / 0.14	—	—	802	348
GROUND WATERS																
(SAN FERNANDO BASIN - WESTERN PORTION)																
2N/16W-27F02 (Reseda No. 8)	10-23-74	1,320	7.30	132 / 6.60	29 / 2.39	80 / 3.49	1.3 / 0.03	0.3 / 0.01	280 / 4.59	305 / 6.36	62 / 1.75	22 / 0.36	0.30 / 0.02	—	832	480
(SAN FERNANDO BASIN - EASTERN PORTION)																
1N/14W-08B01 (Int. Hollywood #10)	6-18-75	608	7.60	70 / 3.50	19 / 1.57	28 / 1.22	3.0 / 0.08	0.4 / .014	230 / 3.79	91 / 1.90	16 / 0.46	24 / 0.39	0.60 / 0.04	—	383	254
(SAN FERNANDO BASIN - L. A. NARROWS)																
1S/13W-04A01 (Pollock No. 6)	10-7-75	1,240	7.44	124 / 6.20	41 / 3.38	84 / 3.66	2.8 / 0.07	0.44 / .014	341 / 5.59	211 / 4.40	108 / 3.05	22 / 0.36	0.25 / 0.02	0.5 / 0.14	781	480
(SYLMAR BASIN)																
[illegible]	6-25-75	633	7.64	73 / 3.65	18 / 1.49	31 / 1.35	3.8 / 0.10	0.51 / .017	249 / 4.08	74 / 1.55	30 / 0.85	9.5 / 0.16	0.40 / 0.03	—	399	256
(VERDUGO BASIN)																
4N/13W-[illegible] (Glorietta No. 5)	5-1-74	650	7.00	74 / 3.70	27 / 2.19	57 / 2.48	—	— 0	189 / 3.10	74 / 1.54	62 / 1.75	69 / 1.11	0.50 / 0.03	—	500	295

*Substituted for Mission No. 1.

State Water Project Water Recharge Study

A Subcommitte of the Advisory Board met throughout the year with LACFCD, DWR, and MWD representatives in an effort to study DWR's proposal to store water from the State Water Project in the San Fernando Basin. The San Fernando Basin study has been established as a prototype model for similar ground water basins throughout the state with the objective of developing the legal, financial, and physical means of storing water underground as a method of meeting or sustaining the firm yield of the State Water Project. This study recognizes the interest of the cities in storing water in their own behalf within the Basin.

The plan under investigation will rely on MWD facilities to convey State Project water from Castaic Lake to the Basin at the east portal of MWD's San Fernando Tunnel. With additional minor construction, water will be conveyed via existing flood control channels to Lopez, Pacoima, and Tujunga Spreading Basins. In addition, water will be stored through an exchange program whereby the cities within the Basin will receive State Project water directly into their system and would, in turn, leave a like quantity of water in the Basin.

The study involves the spreading and storing of up to 320,000 acre-feet over a five-year span to meet unforeseen shortages from the State Water Project due to extended outages of import facilities or exceptionally severe droughts. A report on the feasibility of this project should be out by the middle of 1976.

Ground Water Contamination by Gasoline

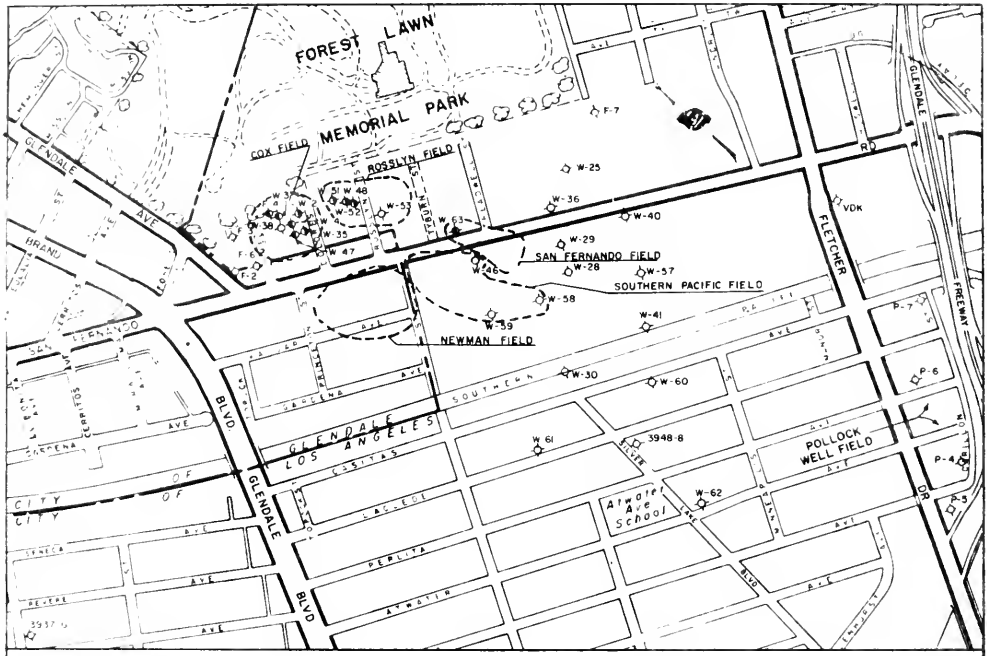
During the 1974-75 water year, progress continued toward abating gasoline pollution near Forest Lawn Cemetery. (The history of this major water quality problem was described in the 1968-69 and 1969-70 Watermaster reports.)

The Western Oil and Gas Association (WOGA) has continued its efforts to abate the pollution. California Regional Water Quality Control Board (CRWQCB), Los Angeles Region, and SWRCB are playing leading roles in ensuring effective, expeditious abatement. DWR has advised the Boards regarding the technical aspects of abatement; and the City of Los Angeles' Department of Water and Power (LADWP) and WOGA have effectively monitored the polluted area.

Nine progress reports have been submitted by WOGA to CRWQCB, Los Angeles Region, the most recent describing progress to date.[1/] Locations and other features currently related to the monitoring and pumping programs are shown in Figure 4. The cleanup program was discussed in the Watermaster's 1971-72 report.

Plans were initiated in 1972-73 to reduce the number of wells being pumped and monitored, and 17 have been destroyed since that time with the approval of CRWQCB, Los Angeles Region (Appendix D).

1/"Ninth Progress Report to Los Angeles Regional Water Quality Control Board on Amelioration of Ground Water Contamination by Gasoline near San Fernando Road in Glendale and Los Angeles". July 1, 1975.



OWNERSHIP	
W-12	WOGA WELLS
F-3	FOREST LAWN WELLS
P-7	L A D W P POLLOCK WELLS
HD	HEALY-DEBURRING WELL
VDK	VAN DE KAMP WELL
3948B	L A D.W.P OBSERVATION WELL

CONDITION OR STATUS [1]
FREE GASOLINE
TRACE OF GASOLINE
GASOLINE ODOR
NO GASOLINE

[1] SOURCE OF INFORMATION – W O G A REPORT, DATED, JULY 1, 1975

Figure 4- GASOLINE POLLUTION-
FOREST LAWN, GLENDALE, LOS ANGELES

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1976

The monitoring situation as of July 1, 1975 is summarized as follows: There was a trace of liquid gasoline in FL-4 (upper), slight traces in wells 3 and 4, gasoline odors in wells 47 and 63, and slight gasoline odors in wells 48, 51, and 52. All other observation and pumping wells were free of odor.

Infrared analyses for hydrocarbons are performed weekly on samples collected by WOGA or by personnel of the LADWP, and analyzed by LADWP. Results have been quite low during the past year, except for a few wells (notably W-63 and FL-4 upper), and show an improving trend. During the period of this report, for example, all samples were 3.2 mg/l or less, except for 14 mg/l at W-63.

The CRWQCB granted a Permit to WOGA on 16 December 1974 for discharge from the Pittman tank into Sycamore Canyon Wash. The only remaining well in the San Fernando field (W-63) has been connected to a pipeline leading to the Pittman tank. The effluent from the Pittman tank has been meeting the requirements of the permit with one exception, namely the limit of 2.0 mg/l for total organic carbon (TOC). On 2 April 1975, WOGA requested the CRWQCB to either drop or raise this restriction on TOC. Information from the LADWP and the State Department of Health indicated that water from unpolluted wells have TOC values ranging from 2.0 to 5.0 mg/l. The CRWQCB will look into the rationale for the TOC limit.

In an attempt to minimize withdrawal of ground water from this area and in an effort to create hydraulic gradients that will move contaminated water into wells from which it can be withdrawn, WOGA has been pumping contaminated water from some wells and injecting clean aerated water into other wells. At the end of June 1975, for example, water was being pumped continuously from W-3, W-4, W-47, and FL-6.

At the same time, clean water from FL-6 was being aerated and injected into wells No. 2 and 53 during June 1975.

The operation of W-63 has been experimental in an effort to develop a continuous gradient from the Cox and Rosslyn fields toward the L. A. River. At the start of 1975 the well was not being pumped. From 9 February to 26 March, clean water was injected, then the well was pumped until 20 June 1975. As of 1 July 1975 it was not being pumped. This well occasionally exhibits traces of gasoline and it always has a gasoline odor.

In an effort to clean up FL-4 (upper), where a seal separates the casing for the upper aquifer from that for the lower aquifer, WOGA arranged with Forest Lawn and assisted in the construction of a pipeline so that Forest Lawn could use water from FL-2 in lieu of that from FL-4 (lower), starting on 29 April 1975. Thereafter, WOGA started to inject clean water into FL-4 (upper) in an attempt to move contaminated water from this area toward W-3 and W-4, which were being pumped. This effort was only partially successful. Injection was stopped on 27 June and Forest Lawn began pumping FL-4 (lower) for irrigation on 1 July 1975.

For the period from 1 January 1975 to 1 July 1975, WOGA has concentrated on the fourth objective established by the CRWQCB, namely to attempt to accelerate the final clean-up and removal of traces of gasoline. The three other objectives have all been well attained. These are: to monitor the areal extent of gasoline contamination, to remove any free gasoline, and to contain the spread of gasoline and its vapors. Work continues on the final clean-up. Wells that are no longer needed for monitoring purposes have been plugged and sealed in accordance with procedures and rules established by the City of Glendale and the joint L. A. County and City Health Department. An ultimate monitoring network and its rationale have been prepared for transmittal to the CRWQCB.

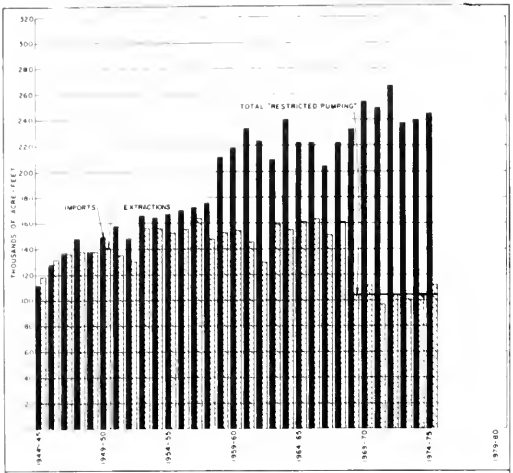


Figure 5- GROUND WATER EXTRACTIONS AND USE OF IMPORTED WATER IN UPPER LOS ANGELES RIVER AREA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT 1976

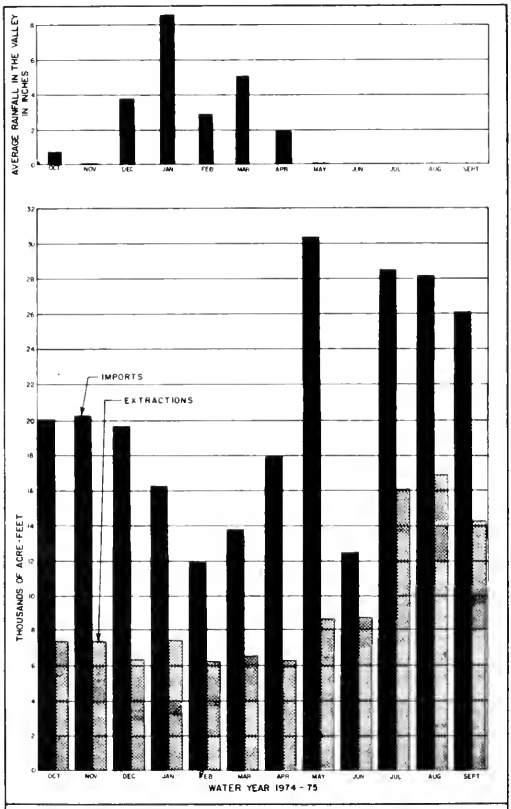


Figure 6 - MONTHLY WATER DEMAND AND AVERAGE RAINFALL IN UPPER LOS ANGELES RIVER AREA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT 1976

III. WATER USE AND DISPOSAL

Water delivered for use in ULARA is either imported water, local ground water, local surface diversions, or a mixture, depending on the area and water system operation. During the 1974-75 water year, water purveyors in ULARA served approximately 356,000 acre-feet to their customers. Of this total, approximately 112,000 acre-feet were extracted and the remaining 244,000 acre-feet were imported. The Basin contains 548 wells, of which 171 are active and 377 are inactive, observation, test, capped, etc. No wells were drilled and nine were destroyed in 1974-75 (Appendix D).

The adjudication of ground water rights in ULARA restricted all ground water extractions, effective October 1, 1968. On that date, extractions were restricted to approximately 104,000 acre-feet per water year. This amounted to a reduction of approximately 50,000 acre-feet below the previous 6-year average.

Under the Judgment, no determination was made regarding overdraft or surplus in the Eagle Rock Basin. Therefore, no restrictions on ground water extractions have been imposed on that Basin.

Except for the Sparkletts Drinking Water Corporation and Deep Rock Water Company, there are no parties to the Judgment that extract water from Eagle Rock Basin. The safe yield of the Basin, under 1964-65 conditions, was set at 70 acre-feet.

The restriction on ground water extractions has been a great factor in the increase of imported water to ULARA during the past six years.

Figure 5 illustrates the annual ground water extractions and total water imported in ULARA, beginning with the 1944-45 water year. Note the change from 1968-69 through 1974-75.

It can also be noted that for 10 years before pumping was restricted, imports exceeded extractions by from 50,000 to 60,000 acre-feet per year and that for the seven water years, 1968-69 - 1974-75, the difference jumped to between 120,000 and 160,000 acre-feet. Due to restricted pumping in ULARA, any substantial increase in water demand in the future will show an increase of imports only.

Figure 6 provides an analysis of the monthly relationship between rainfall, ground water extractions, and imported supply. Data relates to all of ULARA and not to any one specific ground water basin therein. The precipitation values were obtained from stations on the valley floor (Table 1).

Ground Water Extractions

On April 26, 1968, the Watermaster wrote to all parties known to be active that ground water extractions in ULARA would be reduced and controlled by him. Control would be in accordance with the Judgment, which limits the amount of ground water each party can extract annually from each of the separate basins to an amount referred to as "Restricted Pumping".

TABLE 8. RESTRICTED PUMPING AND QUANTITIES EXTRACTED AND ASSIGNED*
(in acre-feet)

Party	(1) Restricted Pumping	(2) Allowable carryover from 1974-75	(3) Assignments in Restricted Pumping[a]	(4) Allowable extraction 1974-75 (1)+(2)+(3)=4	(5) Amount extracted	(6) Balance (4)-(5)=(6)	(7) Allowable carryover into 1975-76
SAN FERNANDO BASIN							
Bartholomaus, William O. and Ellen S. Dubois	15.00	0.00	0.00	15.00	0.00	15.00	1.50
Burbank, City of	13,649.00	44.20	+981.00	14,674.20	14,636.97	37.23	37.23
Conroca Company	0.00	0.00	+1,700.00[b]	1,700.00	1,865.47	-165.47[c]	0.00
Forest Lawn Memorial Park Assoc.	814.00	448.42[d]	-851.00	411.42	276.62	134.80	41.14
Glendale, City of	12,405.00	2,839.09[e]	0.00	15,244.09	13,898.44	1,345.65	1,240.50
Harper, Cecilia DeMille	0.00	0.60	+6.00	6.60	1.12	5.48	0.60
Livingston-Graham, Inc.	0.00	0.00	+470.00	470.00	536.71	-66.71[c]	0.00
Lockheed Aircraft Corporation	239.00	0.00	-207.00	32.00	0.00	32.00	3.20
Los Angeles, City of (Pursuant to "Stipulation for Emergency Spreading and Extraction")	63,257.00	447.86	-3,550.00	60,154.86	60,154.86[f]	0.00	-351.84[g]
		-5,638.52[h]		-5,638.52	7,162.93[i]	-3,580.45[k]	-3,580.45[h]
Malone, Celeste Louise	1.00	0.10	---	1.10	0.00	1.10	0.10
Mena, John and Barbara	0.00	-5.76	---	-5.76	0.96	-6.72	-6.72
Monterla Lake Association	0.00	-13.46	---	-13.46	0.00	-13.46	-13.46
Riverwood Ranch Mutual Water Co.[m]	0.00	3.20	---	3.20	14.40	-11.20[c]	0.00
Sears, Roebuck and Company	0.00	0.00	180.00	180.00	191.56	-11.56[c]	0.00
Southern Service Company, Ltd.	0.00	5.50	45.00	50.50	50.09	0.41	0.41
Sportsmen's Lodge, Inc.	0.00	0.60	0.00	0.60	10.14	-9.54	-9.54
Toluca Lake Property Owners' Assoc.	23.00	3.00	7.00	33.00	27.73	5.27	3.00
Valhalla Memorial Park	184.00	8.88	26.00	218.88	248.03	-29.15	-29.15
Van de Kamp's Holland Dutch Bakers, Inc.	93.00	8.60	-7.00	94.60	0.09	94.51	8.60
Walt Disney Productions	0.00	0.00	1,200.00	1,200.00	1,296.90	-96.90[c]	0.00
Subtotals	90,680.00	-1,847.69	0.00	88,832.31	100,373.02	-2,319.71	-2,654.88
SYLMAR BASIN							
Brown, Charles T.	0.00	-7.38	15.00	7.62	9.37	-1.75	-1.75
Church of Jesus Christ of the Latter Day Saints	0.00	-1,004.68	---	-1,004.68	0.00	-1,004.68	-1,004.68
Plumb and Hersh	609.00	60.90	-15.00	654.90	0.16	654.74	59.40
Los Angeles, City of	2,818.00	-4.85	---	2,813.15	2,992.78	-179.63	-179.63
Moordigian, Kisan	46.00	0.60	---	46.60	0.00	46.60	4.60
San Fernando, City of	2,737.00	684.66	---	3,421.66	3,135.26	286.40	286.40[n]
Subtotals	6,210.00	-270.75	0.00	5,939.25	6,137.57	-198.32	-835.66
VERDUGO BASIN							
Crescenta Valley County Water District	3,294.00	-314.34	---	2,979.66	2,952.41	27.25	27.25
Glendale, City of	3,856.00	385.60	---	4,241.60	2,503.01	1,738.59	395.60
Subtotals	7,150.00	71.26	---	7,221.26	5,455.42	1,765.84	422.85
ULARA TOTALS	104,040.00	-2,047.18	0.00	101,992.82	111,966.01	-752.19[k]	-3,067.69

a/ Refer to Table 11 and Appendix A for information concerning assignments of Restricted Pumping or prior ownership.
b/ Reduction in City of Los Angeles extraction pursuant to separate Stipulated Judgment.
c/ Reverts to City of Los Angeles as a carryover.
d/ Includes 374.12 acre-feet, authorized by the Advisory Board and Watermaster. See Chapter IV.
e/ Includes 1,596.59 acre-feet, authorized by the Advisory Board and Watermaster. See Chapter IV.
f/ Includes extractions from Reseda Wells which totaled 1.27 acre-feet, and 7,162.93 acre-feet authorized by the Advisory Board and Watermaster pursuant to the "Stipulation for Emergency Spreading and Extraction". See Chapter IV.
g/ Includes year-end balance of parties to Stipulated Judgments.
h/ Amount to be returned to basin by spreading imported water or foregoing right to extract water or by combination of both. See Footnote (f).
i/ In 1974-75, the City returned 9,221.00 acre-feet by spreading, thus reducing the balance.
j/ Acquired by the City of Los Angeles.
k/ Allowable carryover by special Watermaster authorization. Amount to be extracted in following two years. See Chapter IV of this report for details.

* *Does not reflect the California Supreme Court decision of May 12, 1975. (See page 10.)*

Table 8 presents a balance sheet which summarizes each party's water account by listing its Restricted Pumping allowable carryover from 1973-74; (see Appendix A for changes); any additional allowable pumping as the result of a water right assignment; amount of ground water extracted during the 1974-75 water year; and the amount that can be carried forward to the succeeding water year.

To provide flexibility in the control of ground water extractions, the Judgment contains various provisions which allow parties to carry over into the succeeding water year a portion of their unused water right and, in some cases, to overextract. This flexibility clause was provided to assist the parties in meeting unforeseen emergencies in water demands. One provision allows parties to carry over from one water year to another any unused Restricted Pumping up to an amount not to exceed 10 percent of their Restricted Pumping.

The flexibility clause also allows parties to overextract up to an amount equal to 10 percent of their Restricted Pumping. However, any overextraction will be deducted from the Restricted Pumping in the succeeding water year. Chapter IV contains additional information on this provision.

In addition to the flexibility clause, the City of San Fernando is allowed, by the Judgment, to exceed its assigned Restricted Pumping in Sylmar Basin. The additional allowance for the City of San Fernando is described in the Judgment as "Physical Solution-Sylmar Basin". This provision allows the City of San Fernando to extract up to 850 acre-feet of water per year in addition to the amount that it has received under its Restricted Pumping. If the City of San Fernando takes, diverts, or extracts water in addition to its Restricted Pumping, it must immediately notify the City of Los Angeles and the Watermaster in writing, and the City of Los Angeles must reduce its extractions in an amount equal to the amount that the City of San Fernando has exceeded its rights. Chapter IV describes the 1974-75 operation.

The Judgment, in Section IV, also allows various parties to divert and extract water from the San Fernando Basin in accordance with the terms and conditions of the stipulated Judgments between the City of Los Angeles and said parties (Case No. 650,079). The City of Los Angeles, in turn, shall deduct from its Restricted Pumping for each year the aggregate amount of water extracted pursuant to the separate stipulated Judgments.

At the commencement of each water year, the City of Los Angeles advises the Watermaster of the estimated amount of water each party to the stipulated Judgments will pump during the water year (Appendix A). The City then reduces its extractions in the San Fernando Basin in an amount equal to the estimates. For each subsequent year, the City of Los Angeles will reduce its extractions by the amount of water that said stipulated parties' extractions exceeded the estimates for the preceding year. Should the stipulated parties' extractions be less than the estimate for that year, the City of Los Angeles may increase its extractions by that amount in the next succeeding year.

The February 1971 earthquake resulted in such heavy damage to the City of San Fernando's water facilities and the City of Los Angeles' terminal storage complex at Van Norman Reservoir that changes in allowable ground water extractions for these two parties were required. As a result, the City of Los Angeles was allowed to exceed its Restricted Pumping in the San Fernando Basin pursuant to the "Stipulation for Emergency Spreading and Extraction" (Appendix A, 1970-71 report). Table 8 shows a separate accounting of this item. The City of San Fernando, in turn, was allowed to extract the unused 1970-71 water right balance of 1,526.06 acre-feet in the ensuing three water years. A further explanation of this authorization and extension is discussed in Chapter IV.

The metered ground water production from each active well is listed by basin and by party in Appendix B, Table B-1. This tabulation presents the total ground water production as reported by each party. Plates 6 and 7 depict the service area wherein each party delivers its water supply.

Extractions by Nonparties

In order to keep the parties and the Court apprised of all the ground water extractions within ULARA, the Watermaster has attempted to collect information on nonparty ground water extractions.

A nonparty is an entity which was not named in the ULARA water right suit. These nonparties and parties which were dismissed by the court do not come under the jurisdiction of the Watermaster.

To the best of the Watermaster's knowledge, WOGA, The Metropolitan Water District of Southern California (MWD), and Glen A. Berry are the only nonparties extracting ground water in ULARA.

No report on ground water extractions is made as to the parties dismissed from the action: Glenhaven Memorial Park, Incorporated; Los Angeles County Waterworks District No. 21, etc., which are still active pumpers in the hill and mountain areas of ULARA.

Ground water extracted by MWD and WOGA is also shown in Table B-1. Extractions by Glen A. Berry are estimated at 3 acre-feet per year (see Chapter IV) and are not shown in Table B-1.

Water Wells in ULARA

The Report of Referee described the wells in ULARA according to a number-location identification system devised by the Los Angeles Flood Control District. However, the Watermaster has redesignated the wells in accordance with his identification system.

A State Well Numbering system was adopted by the State several years ago that utilizes the U. S. Public Land Survey System. A graphical illustration and description of the coding system in ULARA is shown in Figure 7.

Each water well in ULARA was assigned a State Well Number to simplify the administration of the Judgment and the monitoring of ground water extractions. A cross-index between State Well Numbers and the county

numbers was completed in March 1972 and made available to all interested parties.

Plate 2 on page 17 shows the location of all wells (party and nonparty) known to be in existence by the Watermaster as of September 30, 1975. The wells are plotted and coded in accordance with the above procedure and that shown in Figure 7.

Wells reported to the Watermaster as having been drilled or destroyed in 1974-75 are listed in Appendix D.

As a matter of course, the Watermaster locates all new wells by survey and assigns a new State Well Number. The parties that submit detailed information as to the location of the well will preclude the Watermaster's requirement for a survey. Each party is required to notify the Watermaster whenever a new well is drilled or a well is destroyed.

State well numbers that identify each water well in ULARA are derived from a system based on the U.S. Public Land Survey. Each number consists of township and range designation, a section number, a letter representing the 40-acre tract in which the well is situated, a sequence number indicating the chronological order in which the well number was assigned, and a letter representing the base and meridian. The last letter is frequently omitted from well numbers in a single area because all wells there share a single base and meridian. Well numbers are assigned by the Watermaster.

The components of well No. 1N/14W-12C03S, for example, are identified in the following breakdown:

Township	Range	Section	Tract	Sequence number	Base and meridian
1N	14W	12	C	03	S

The derivation of the components is illustrated below:

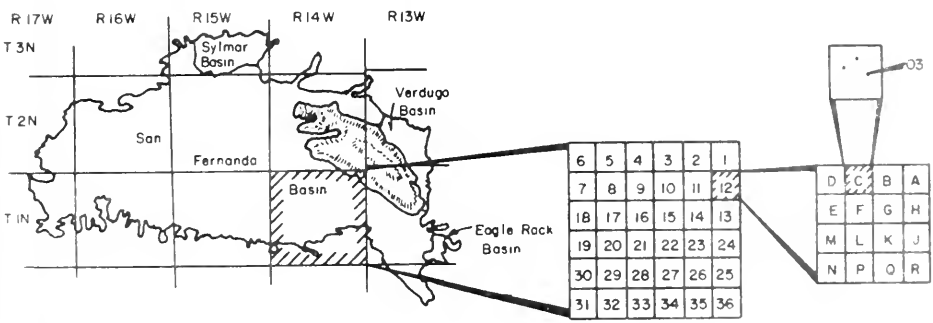


Figure 7. SYSTEM FOR WATER WELL IDENTIFICATION

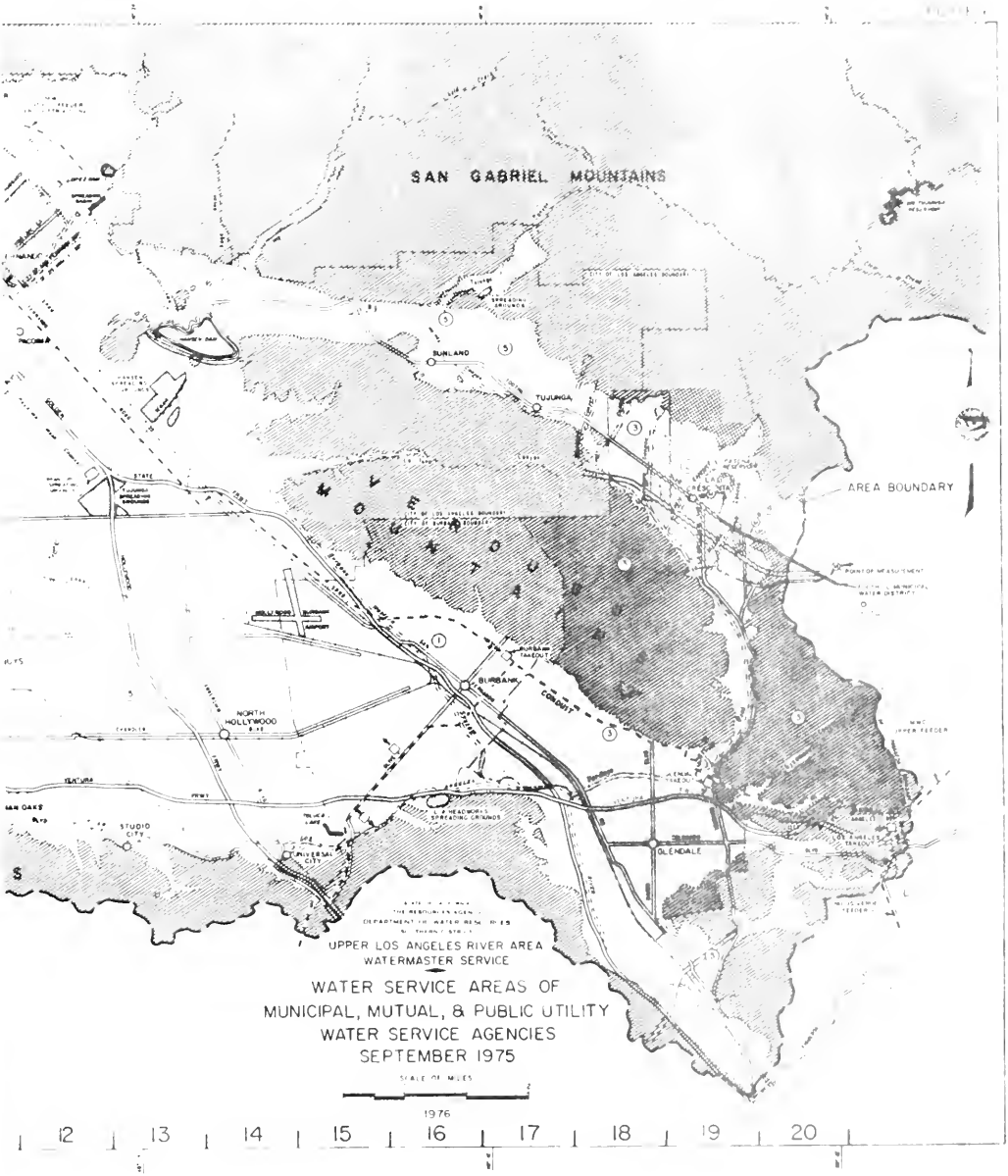
INDEX TO PLATE

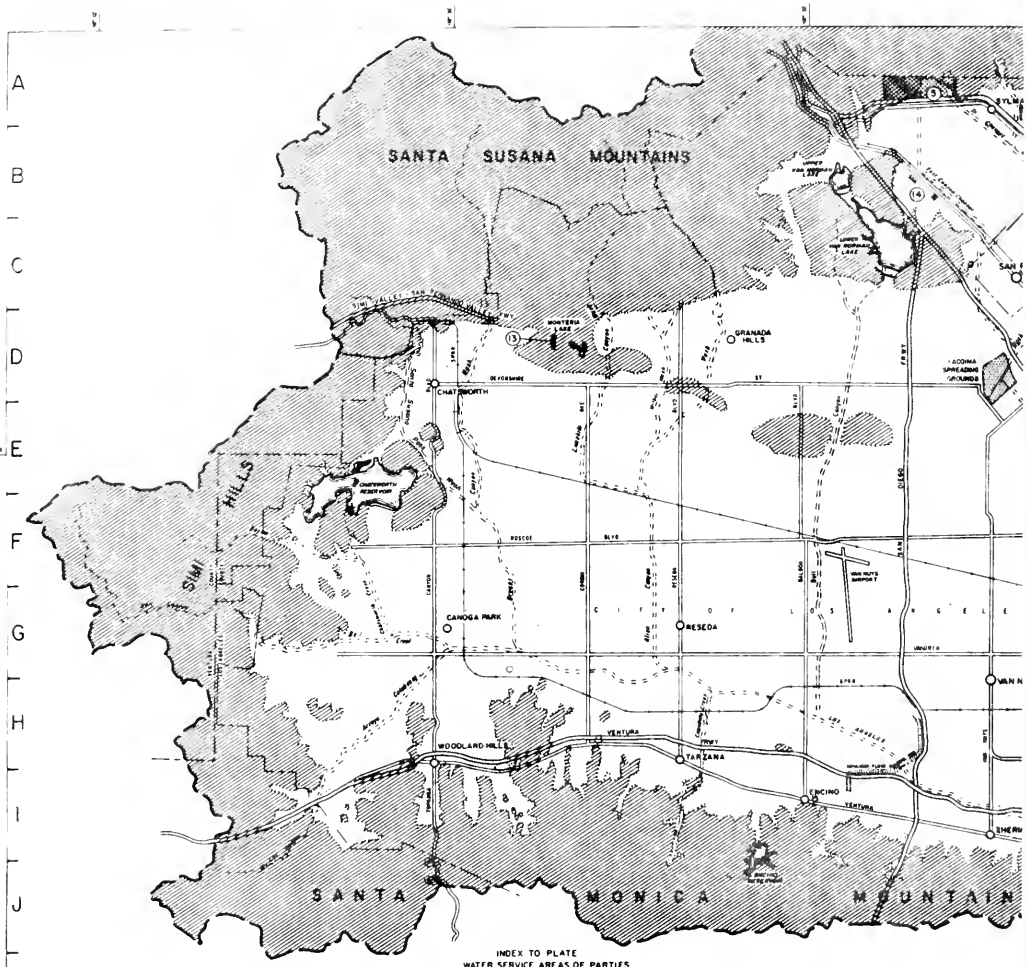
PARTIES

PARTY	LOCATION ON PLATE
(1) BURBANK CITY OF	G-16
(2) CRESCENTA VALLEY COUNTY WATER DISTRICT	F-19
(3) GLENDALE, CITY OF	H-19
(4) LA CANADA IRRIGATION DISTICT	F-20
(5) LOS ANGELES, CITY OF	F-10,C 16
(6) SAN FERNANDO, CITY OF	C-11

NON-PARTIES

NON-PARTY	LOCATION ON PLATE
(7) LAS VIRGENES MUNICIPAL WATER DISTRICT	F-3


SAN GABRIEL MOUNTAINS
SUNLAND
TUJUNGA
MOUNTAINS
AREA BOUNDARY
BURBANK
NORTH HOLLYWOOD
STUDIO CITY
UNIVERSAL CITY
GLENDALE
UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE
WATER SERVICE AREAS OF
MUNICIPAL, MUTUAL, & PUBLIC UTILITY
WATER SERVICE AGENCIES
SEPTEMBER 1975
SCALE OF MILES
1976
12
13
14
15
16
17
18
19
20



INDEX TO PLATE
WATER SERVICE AREAS OF PARTIES

AREA NUMBER		LOCATION ON PLATE
1	BARTHOLOMAUS, WILLIAM D AND ELLEN S DUBOIS	C-14
2	BROWN CHARLES T	B-11
4	CONROCK CO	E-14,G-13
5	CHURCH OF JESUS CHRIST OF LATER DAY SAINTS	A-10
7	FOREST LAWN MEMORIAL PARK	H-16,J-19
8	HARPER, CECILIA DEMILLE	C-14
9	IVINGSTON, GRAHAM INCORPORATED	D,H,E-14
10	LOCKHEED AIRCRAFT CORPORATION	G-15
11	MCCABE, CELESTE LOUISE	*
12	MENA JOHN AND BARBERA	D-16
13	MONTERIA LAKE ASSOCIATION	D-16
14	MOORDIGIAN KISAG	B-10
14A	PLUMB GERALD B AND LUCILLE M	B-13
15	SEARS ROEBUCK AND COMPANY	I-18
16	SOUTHERN SERVICE COMPANY LIMITED	I-18
17	SPORTSMENS LODGE INCORPORATED	I-12
18	TOLUCA LAKE PROPERTY OWNERS' ASSOCIATION	I-15
19	U.S. MORTGAGE	J-16
20	VALHALLA MEMORIAL PARK	H-14
21	VAN DE KAMPS HOLLAND DUTCH BAKERS, INC	K-19
22	WALT DISNEY PRODUCTIONS	I-16

* No service area

PLATE 7


SAN GABRIEL MOUNTAINS
MOUNTAINS
BUNLAND
TUJUNGA
LA CRESCENTA
LA CANADA
BURBANK
NORTH HOLLYWOOD
STUDIO CITY
UNIVERSAL CITY
GLENDALE
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE
WATER SERVICE AREAS OF
INDIVIDUAL PRODUCERS
SEPTEMBER 1975
SCALE OF MILES
1976
12
13
14
15
16
17
18
19
20

Imports and Exports of Water

Residential, commercial, and industrial expansion in ULARA requires the importation of additional water supplies to supplement that provided by the ground water basins. The City of Los Angeles and MWD have kept abreast of this demand by continuing to expand their facilities for the importation of water.

The City of Los Angeles now has a second aqueduct capable of bringing in an additional supply of Owens River and Mono Basin water at the rate of more than 130 million gallons a day.

In addition to the City's aqueducts, MWD's Colorado River aqueduct delivers water to the Cities of Burbank, Glendale, Los Angeles, and San Fernando. On November 9, 1971, by unanimous approval of a resolution by MWD's Board of Directors, the City of San Fernando became a member agency of MWD. Thus, San Fernando can now obtain supplemental water on a permanent basis from MWD supplies and participate in all programs for the future development and distribution of such water.

The Crescenta Valley County Water District and La Canada Irrigation District also import Colorado River water through the facilities of the Foothill Municipal Water District, which is a member agency of MWD.

The State Water Project now delivers water from northern California to MWD at Castaic Reservoir, thence through the MWD Foothill Feeder to the Joseph Jensen Water Filtration Plant in ULARA.

Exports from ULARA, exclusive of sewage, are limited to the City of Los Angeles, which exports imported and ground water. Table 9 summarizes the nontributary imports and exports from ULARA. Ground water imports and exports in and out of ULARA are listed in Table 10.

Facilities importing nontributary water are shown on Plate 6, page 45.

The 18-foot San Fernnado Tunnel will be completed to its terminus at Lopez Wash on November 25, 1975.

Physical Data by Basins

To comply with the Court's directive, the Watermaster has collected and summarized data in Table 10 which show the water supply and disposal in each of the basins.

The information for Table 10 was submitted by the parties. In instances where estimates were made, such as water delivered to hill and mountain areas, sewage exported, etc., estimates were made by the parties and based upon methods consistent with previous estimates computed by SWRCB for the San Fernando Valley Reference. The Watermaster likewise made computations of subsurface outflows based on similar computations made by SWRCB. The Cities of Glendale and Burbank are reevaluating the quantities delivered to hill and mountain areas due to possible misinterpretation of referee's boundary lines between the valley fill and hill and mountain areas.

Some of the figures submitted for Table 10 are partially estimated, due to lack of information at the time of submittal. However, the actual figures based on measured values are subsequently submitted to the Watermaster for his permanent records. The revised data are available from the Watermaster on request.

TABLE 9. ULARA IMPORTS AND EXPORTS

Source and Agency	Quantity, in acre-feet 1973-74		1974-75	
IMPORTS				
Colorado River Water				
Burbank, City of	0		0	
Crescenta Valley County Water District	1,046		1,235	
Glendale, City of	80		0	
Los Angeles, City of	4,621		2,719	
La Canada Irrigation District	837		636	
Las Virgenes Municipal Water District (nonparty)	0		0	
San Fernando, City of	22		0	
		6,606		4,590
Northern California Water				
Burbank, City of	11,127		8,115	
Crescenta Valley County Water District	0		267	
Glendale, City of	8,951		9,518	
La Canada Irrigation District	0		148	
Las Virgenes Municipal Water District (nonparty)	2,806		7,881	
San Fernando, City of	0		0	
		22,884		25,929
Owens River Water				
Los Angeles, City of		446,059 a,b/		440,810 b/
Total		475,549 a/		471,329
EXPORTS				
Owens River Water				
Los Angeles, City of		-232,204 a/		-227,048
Net Import		243,345 a/		244,281

a/ Last year's figure was updated.
b/ This value represents the summation of the gross amount of water delivered to and exported from ULARA. It does not include operational releases, reservoir evaporation, and water spread during the year.

TABLE 10 SUMMARY OF WATER SUPPLY AND DISPOSAL BY BASINS
(in acre-feet)

Water source and use	City of Burbank	City of Glendale	City of Los Angeles	City of San Fernando	All others	Total
SAN FERNANDO BASIN						
Extractions						
Total quantity	14,637	13,898	67,318[a]	0	4,722	100,575[a]
Used in valley fill	13,797	8,646	11,220	0	4,520[b]	38,183[b]
Imports						
Colorado River Water	0	0	660	0	--	660
Owens River Water	--	--	433,683	--	--	433,683
Northern Calif. Water	8,115	6,284	0	0	7,881	22,280
Ground Water from Sylmar Basin	--	--	2,993	2,977	0	5,970
Exports						
Ground water:						
to Verdugo Basin	--	4,198	0	--	0	4,198
out of ULARA	--	--	59,093	--	0	59,093
Owens River Water:						
out of ULARA	--	--	227,048	--	--	227,048
to Eagle Rock Basin	--	--	1,750	--	0	1,750
Colorado River:						
to Verdugo Basin	--	0	0	--	0	0
Northern Calif. Water:						
to Verdugo Basin	--	3,236	--	--	--	3,236
Water delivered to hill and mountain areas						
Ground water	840	1,054	0	0	0	1,894
Owens River Water	--	--	35,008	--	--	35,008
Colorado River Water	0	0	660	0	--	660
Northern Calif. Water	465	773	0	0	7,881	9,119
Water outflow						
Surface	--					64,141[c]
Subsurface	--					328
Sewers	12,021[d]	18,124	76,610	1,676		108,431
SYLMAR BASIN						
Extractions						
Total quantity	--	--	2,993	3,135	192	6,320
Used in Valley Fill	--	--	0	294	9[e]	303
Imports						
Owens River Water	--	--	6,155	--	--	6,155
Exports						
Ground water:						
to San Fernando Basin	--	--	2,993	2,977	0	5,970
Water delivered to hill and mountain areas						
Owens River Water	--	--	338	--	--	338
Water outflow						
Surface						5,000[f]
Subsurface:						
to San Fernando Basin						427
Sewers	--	--	770	166	0	936

TABLE 10. SUMMARY OF WATER SUPPLY AND DISPOSAL BY BASINS (Continued)
(in acre-feet)

VERDUGO BASIN

Water source and use	Crescenta Valley County Water District	City of Glendale	La Canada Irrigation District	City of Los Angeles	Total
Extractions					
Total quantity	2,952	2,504	0	0	5,456
Used in valley fill	2,861	2,226	0	0	5,087
Imports					
Colorado River Water	1,235	0	636	0	1,871
Owens River Water	--	--	--	972	972
Northern Calif. Water	267	3,234	148	0	3,649
Ground water from:					
San Fernando Basin	--	4,198	--	0	4,198
Exports	0	0	0	0	0
Water delivered to hill and mountain areas					
Colorado River Water	46	0	0	0	46
Owens River Water	--	--	--	313	313
Northern Calif. Water	0	363	0	0	363
Ground water from:					
Verdugo Basin	91	278	--	0	369
San Fernando Basin	--	472	0	0	472
Water outflow					
Surface					5,588 g/
Subsurface					
to Monk Hill Basin					300 h/
to San Fernando Basin					62
Sewage	0	1,680	0	0	1,680

EAGLE ROCK BASIN

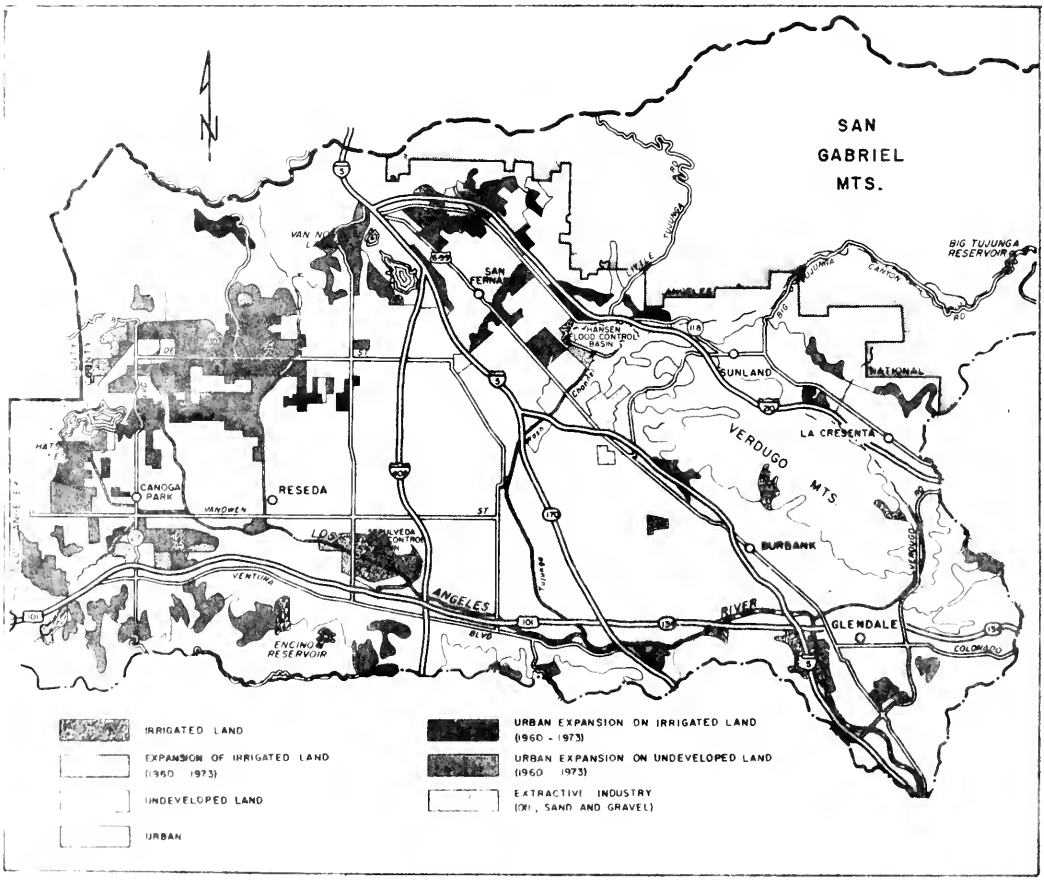
Water source and use	City of Los Angeles	Deep Rock Water Company	Sparkletts Drinking Water Corporation	Total
Extractions				
Total quantity	0	6	129	135
Used in Valley Fill	0	0	0	0
Imports				
Owens River	1,750	--	--	1,750
Colorado River	2,059	--	--	2,059
Ground water	0	0	0	0
Exports				
Ground water	0	6	129	135
Water delivered to hill and mountain areas				
Colorado River Water	1,313	--	--	1,313
Owens River Water	671	--	--	671
Water outflow				
Surface	--	--	--	[illegible]
Subsurface	--	--	--	[illegible]
Sewage	[illegible]	[illegible]	0	[illegible]

a/ Excludes production from Reseda wells which amounted to 1 acre-feet.
b/ Excludes production of 202 acre-feet by Western Oil and Gas Association (nonparty).
c/ Measured at Station F-57C where the 29-year mean (1929-57) base low flow is 7,560 acre-feet.
d/ Includes reclaimed waste water which infiltrates into the ground water basin after being discharged in L. A. River and while in route to gaging station F-57C.
e/ Excludes 183 acre-feet of water from San Fernando Tunnel which is being built by MWD.
f/ Surface outflow is not measured. Calculated average surface outflow by Mr. Laverty - SF Exhibit [illegible].
g/ Information obtained from Station F-252R.
h/ Based on 29-year average (1929-57).
i/ Information not available.
j/ Indicated in Supplemental No. 2 to Report of Referee for dry years 1960-61. Currently, data not available for direct evaluation.

Land-Use Study, 1973

A land use inventory of Coastal Los Angeles County, including ULARA, was conducted by DWR and was reported in the District Report "Coastal Los Angeles County Land-Use Study, 1973". The study, based on January and February 1973 aerial photography, was conducted from August 1973 to September 1974.

Water use is intimately associated with land use. Results from this study are extremely valuable to water planners. Detailed land use tabulations and the District Report are available for inspection in DWR's Southern District office. Shown below are the 1973 land-use characteristics for ULARA as surveyed and depicted in the above mentioned report.



LAND-USE CHARACTERISTICS

IV. ADMINISTRATION OF THE JUDGMENT

The Department of Water Resources, as Watermaster of ULARA, administers the Judgment and keeps the Court fully apprised of any violations or changes in administration.

Assignments of Restricted Pumping

In accordance with the provisions of the Judgment, the Watermaster records all changes of ownership, transfer, or assignment of Restricted Pumping rights. Table 11 lists all assignments, parties, and amounts involved. Appendix A records the documents used to assign Restricted Pumping rights by each of the parties as of September 30, 1975. During the 1974-75 water year, the City of Los Angeles submitted estimates on the amounts to be extracted by those parties having separate stipulated Judgments with the City. The clause that allows the parties with stipulated Judgments to extract ground water under the City of Los Angeles' Restricted Pumping right is covered by Section V, Paragraph 2 of the Judgment. The City of San Fernando did not exercise its right to purchase water from the City pursuant to the "Physical Solution-Sylmar Basin", which is described in Section VII, Paragraph 2 of the Judgment.

TABLE 11. ASSIGNMENTS OF RESTRICTED PUMPING

Party	Assignment and amount, in acre-feet			Party
		San Fernando Basin		
Pursuant to Stipulated Judgments				
Conrock Company[a/]	Stipulated	1,700.00[b/]	from	Los Angeles, City of
Livingston-Graham, Inc.	Stipulated	470.00[b/]	from	Los Angeles, City of
Sears, Roebuck and Company	Stipulated	180.00[b/]	from	Los Angeles, City of
Walt Disney Productions	Stipulated	1,200.00[b/]	from	Los Angeles, City of
Pursuant to License				
Burbank, City of	Licensed	800.00	from	Forest Lawn Memorial Park Association
Burbank, City of	Licensed	181.00	from	Lockheed Aircraft Corporation
Harper, Cecilia de Mille	Licensed	6.00	from	Forest Lawn Memorial Park Association
Los Angeles, City of	Granted	0.00	from	Riverwood Ranch Mutual Water Company
Southern Service Company	Licensed	45.00	from	Forest Lawn Memorial Park Association
Toluca Lake Property Owner's Association	Licensed	7.00	from	Van de Kamp's Holland Dutch Bakers, Inc.
Valhalla Memorial Park	Licensed	26.00	from	Lockheed Aircraft Corporation
		Sylmar Basin		
Pursuant to License				
Brown, Charles T.	Licensed	15.00	from	Fidelity Federal Savings and Loan
Plumb and Hersh	Granted	609.00	from	Fidelity Federal Savings and Loan

a/ Formed by merger of California Materials Company and Consolidated Rock Products Company.
b/ Estimate submitted by City of Los Angeles, see Appendix A.

In addition to the Cities of Los Angeles and San Fernando, a number of parties availed themselves of the opportunity to license water rights to meet their demand.

The Watermaster was notified that, by mutual agreement, the license between Sportsmen's Lodge, Incorporated and Forest Lawn Memorial Park for 10 acre-feet of Restricted Pumping during 1973-74 was voided. (See Table 11 in the 1973-74 Annual Report). The change in carryover has been incorporated in Table 8.

In order that a water right license or sale agreement be in force during the water year, it will be the Watermaster's policy that it be signed before or during the water year in question. Failure to submit a license or sale document to the Watermaster by August 31 of the water year in question may be considered evidence that such an agreement was never consummated during such water year.

Overextractions

In restricting ground water extractions in ULARA, it was foreseen that there would be unavoidable fluctuations in water use occurring from year to year. Therefore, the flexibility clause was included in the Judgment allowing each party to vary its extractions within reasonable limits so that it could pump more or less than its Restricted Pumping with equivalent debits or credits being applied to its extractions in the subsequent water year.

The provisions of Section VIII of the Judgment allows each party a flexibility of 10 percent of its Restricted Pumping right. In other words, a party may underpump or overpump by 10 percent of its Restricted Pumping and in the succeeding water year increase or decrease (whichever is applicable) its pumping by the same amount. Table 12 summarizes all overextractions and violations of the Judgment.

Of the 12 parties that exceeded their allowable extractions for 1974-75, six were in violation of the Judgment.

The parties in violation are subject to possible court action. Recommendations are discussed under "Findings, Determinations and Recommendations by the Watermaster".

Table 12 also lists Conrock Company, Livingston-Graham, Inc., and Sears, Roebuck and Company, which are parties that are subject to a Stipulated Judgment with the City of Los Angeles. These parties' extractions, in excess of the estimates submitted by the City, will be adjusted against the City's Restricted Pumping right during the 1975-76 water year. As such, the parties in question are not considered to be in violation of the Judgment.

TABLE 12. OVEREXTRACTIONS *
(in acre-feet)

	(1) Restricted Pumping[a]	(2) Allowable carryover from 1973-74	(3) Allowable extraction 1974-75 (1)+(2)	(4) Amount extracted	Overextractions: Amount (4)-(3)	Allowable[b] (3) x .10	Over 10% (Amount)-(Allowable)
San Fernando Basin							
[illegible] Company	1,700.00	0.00	1,700.00	1,[illegible].47	-1[illegible].4	------[c]	
[illegible] Farms	470.00	0.00	470.00	[illegible]30.71	-64.71	------[c]	
[illegible] City of	9,707.00	-4,190.66[d]	4,[illegible].34	17,31[illegible].7[e]	-3,580.45[e]	[illegible][e]	[illegible][e]
[illegible] Mutual Water Co.	0.00	-5.76	-5.76	0.[illegible]	-6.72	[illegible]	------[f]
[illegible] Water Association	0.00	-13.40	-13.40	[illegible]	-1.40	[illegible]	------[f]
[illegible] Mutual Water	0.00	3.20	3.20	14.40	-11.20	[illegible]	------[f]
[illegible] Company	180.00	0.00	180.00	1[illegible].[illegible]	-11.[illegible]	------	
[illegible]	0.00	0.60	0.60	10.14	9.54	[illegible]	------[f]
[illegible]	[illegible].00	0.88	18.88	9[illegible].[illegible]	-9.[illegible]	[illegible]	[illegible][h]
Walt Disney Productions	1,200.00	0.00	1,200.00	1,296.90	-96.90	------[c]	
Subtotals	63,467.00	-5,197.20	58,269.80	71,481.96	-3,991.16		
[illegible]							
[illegible], Charles T.	[illegible].00	-7.38	7.62	9.37	-1.75	[illegible]	[illegible][g]
Church of Jesus Christ of the LDS	0.00	-1,004.68	-1,004.68	0.00	-1,004.68	[illegible]	------[f]
[illegible] Angeles, City of	[illegible]	-4.82	2,913.15	2,992.78	-179.63	[illegible].90	[illegible]
Subtotals	[illegible]	-1,016.91	1,916.09	3,002.15	-1,186.06		
Totals	66,300.00	-6,214.11	60,085.89	74,484.11	-5,177.22		

a Refer to Column (2+3), Table 8.
b Computed as 10 percent of Column (1) unless otherwise noted.
c Party entitled to extract ground water per stipulated Judgment with City of Los Angeles. The City will, in succeeding water year, decrease its extractions by the amount of the overextraction shown under Column (5).
d Includes 5,638.52 acre-feet overextracted in 1970-71 and 1973-74 pursuant to "Stipulation for Emergency Spreading and Extraction".
e Includes 7,162.93 acre-feet overextracted pursuant to "Stipulation for Emergency Spreading and Extraction".
f Not to be considered an overextraction per se, as the "Stipulation for Emergency Spreading and Extraction" permits the City of Los Angeles to overextract. In 1974-75, the City returned 9,221.00 acre-feet by spreading, thus reducing the balance.
g For City of Los Angeles, the allowable overextraction is 10 percent of its "Restricted Pumping" shown in Column (1) of Table 8.
h Party in violation of the Judgment either as a result of having a zero water right or having exceeded its allowable extraction by 10 percent of its "Restricted Pumping" shown in Column (1).
i Company incorporated with City of Los Angeles.

* *Does not reflect the State Supreme Court decision of May 12, 1975.* *(See page 10.)*

Findings, Determinations, and Recommendations by the Watermaster

The Watermaster finds six parties in violation of the Judgment as a result of overextractions during the 1974-75 water year. The parties in violation are John and Barbara Mena, Monteria Lake Association, Sportsmen's Lodge, Inc., Valhalla Memorial Park, Charles T. Brown, and The Church of Christ of Latter-Day Saints.

John and Barbara Mena extract approximately 1 acre-foot a year for domestic purposes; they have not been requested by the Watermaster to lease water rights to make up their overextractions. In the view of the small amount of extraction involved, the Watermaster recommends no action be brought against John and Barbara Mena at this time.

Monteria Lake Association has not extracted any water since the 1968-69 water year; however, the Association's account continues to show an accumulated carryover deficit since they have not leased any water rights to offset the accumulated overextractions. They were advised on March 5, 1971 that they eliminate their deficit; to date the Association has not taken any action. Therefore: THE WATERMASTER DOES HEREBY RECOMMEND THAT THE COURT TAKE ACTION AGAINST MONTERIA LAKE ASSOCIATION FOR NONCOMPLIANCE.

Sportsmen's Lodge, Inc. negotiated a lease with Forest Lawn Company during the 1973-74 water year which was voided. This resulted in inadequate carryover from 1973-74 into 1974-75 to satisfy their water needs for 1974-75. They have taken action to cover their overextraction. The Watermaster recommends no action be brought against Sportsmen's Lodge, Inc.

Valhalla Memorial Park has taken action to cover their overextraction. The Watermaster recommends no action be brought against Valhalla Memorial Park.

Charles T. Brown's overextraction was only slightly above the 10% limit and he is taking action to lease sufficient rights to cover the overextraction and his 1975-76 water needs. The Watermaster recommends no action be brought against Charles T. Brown.

The Church of Jesus Christ of Latter-Day Saints has not reported any extractions of ground water since June 1973 and has not appeared to make any effort to eliminate its accumulated overextractions. At the conclusion of the 1971-72 water year, it was advised by the Watermaster of the considerably large amount of overextraction and was asked to please advise the Watermaster what action it would take to correct the cited deficiency. As of January 15, 1976, no notification has been received by the Watermaster. Therefore: THE WATERMASTER DOES HEREBY RECOMMEND THAT THE COURT TAKE ACTION AGAINST THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS FOR NONCOMPLIANCE.

As a result of the February 9, 1971, earthquake and the shutdown of the First Los Angeles Aqueduct during the period from February 26, 1974 to April 4, 1974 for major repair work, the City of Los Angeles had to depend on its ground water to meet water demand. To help solve the problems caused by these emergencies, the City requested permission to extract pursuant to the provision of the "Stipulation for Emergency Spreading and Extraction". The City's requests were approved by the Watermaster and the ULARA Advisory Board. The extractions are subject to repayment by either spreading or curtailment of ground water extractions in future years.

As of September 30, 1975 this report shows that the City had 3,580.45 acre-feet under the special account.

Following is a summary of the City's account pursuant to the Stipulation and does not reflect the California Supreme Court decision of May 12, 1975.

Water Year	Extraction (A.F.)	Spreading (A.F.)
1970-71	2.055.92	1,077
1973-74	4,659.60	0
1974-75	7,162.93	9,221
Totals	13,878.45	10,298
Amount Spread	10,298.00	
Remaining	3,580.45 A.F.	

(A copy of the Stipulation for Emergency Spreading and Extraction is shown in Appendix A of the 1970-71 Watermaster report.)

During the February 4, 1972 ULARA Advisory Board meeting, a motion was approved for the City of San Fernando to be allowed to extract its unused water right during the subsequent three water years. The Watermaster concurred in view of the emergency resulting from the 1971 earthquake, which prevented the City from pumping its share of ground water from the Sylmar Basin.

The Watermaster subsequently approved, subject to the continuing jurisdiction of the Court, the City of San Fernando's allowable carryover of extraction during the three subsequent water years, amounting to the 1,526.06 acre-feet it was unable to use in 1970-71. During the 1971-72 and 1972-73 water years, the City extracted 288.43 and 227.11 acre-feet of carryover, respectively, leaving 1,010.52 acre-feet which it could have extracted during the 1973-74 water year. On September 5, 1974, the City asked for an additional extension of two years through the 1975-76 water year to complete the extraction of its water right entitlement, since it could not fully utilize it in 1973-74.

That request was submitted to the Advisory Board on September 19, 1974, and was approved. The Watermaster has therefore extended the 1973-74 balance of 684.66 acre-feet to be used during the water years 1974-75 and 1975-76.

As mentioned in Chapter III, to the best of the Watermaster's knowledge and information on hand, Glen A. Berry, WOGA, and MWD are the only nonparties extracting ground water in the three ground water basins. The Watermaster has approved the latter two operations which are necessary for the control of gasoline pollution at Forest Lawn and the construction of the San Fernando Tunnel of the MWD Foothill Feeder.

Glen A. Berry drilled a well at his residence in Chatsworth on March 3, 1972, and is currently extracting ground water for his lawns, shrubs, and trees. He was informed on June 20, 1972 of the ULARA Judgment, which restricts ground water use in ULARA and places the use thereof under the Court's jurisdiction. The Watermaster has not tested the well capacity and at this time estimates the water use at approximately 3 acre-feet per year, based on water use of 2.8 acre-feet per acre per year used for lawns and shrubs.

V. ADMINISTRATIVE COSTS

ULARA was established as a "Watermaster Service Area" in accordance with Part 4, Division 2, of the California Water Code. Pursuant to the provisions of its Section 4201, the cost of Watermaster Service is payable one-half by the State and one-half by the parties. Thus, the parties are assisted by the State in distributing the water economically.

On the other hand, the Judgment describes the procedures for apportioning the costs among the parties and how it should be collected. It requires that each year the Watermaster prepare a tentative budget covering the forthcoming July 1 to June 30 fiscal year. (Watermaster Service and the annual report are on a water year basis, i.e., October 1 through September 30.)

The Judgment also provides that the parties' share of the budget be borne by each party in the proportion that its "Mutual Prescriptive Right" bears to the total "Mutual Prescriptive Right" of all parties in ULARA. However, no party having 50 acre-feet or less of "Mutual Prescriptive Right" shall be assessed any charges.

The Watermaster is required to include the tentative budget and its apportionment in the annual report, so that it may be reviewed and approved by the Advisory Board on or about February 1 of each year. The tentative budget is subsequently mailed to the parties as part of the annual report on or before March 1 of each year. If there are any objections to the budget, they must be presented in writing to the Court and to the Watermaster within 30 days (on or before March 31) after the mailing of the annual report. If no objections are received, the budget becomes final.

Invoices are mailed on or about April 1 and all payments must be received, whether objections are filed or not, within 60 days (on or before May 1) after mailing of the annual report.

Approved Budget for 1974-75

In accordance with the Judgment, the Watermaster submitted a budget for the fiscal year July 1, 1974 through June 30, 1975 as part of its 1972-73 annual report. The tentative budget and annual report were reviewed and approved by the Advisory Board on February 4, 1974.

The parties had 30 days after the mailing of the annual report to submit their objections to the tentative budget. No objections were received by March 31, 1974 and the budget became final. Table 13 presents the 1974-75 budget as approved by the Advisory Board and parties.

Invoices for each party's proportionate share of the budget were mailed on or about April 1 and all payments were received prior to the deadline of May 1, 1974. Each party's proportionate share of the 1974-75 budget is shown in Table 14. A recapitulation for the Cities of Glendale and Los Angeles is made since they are billed in two separate basins.

TABLE 13. APPROVED BUDGET FOR 1974-75

ULARA Watermaster Service Area

Salaries and wages	$19,085	
Operating expenses	7,113	
TOTAL BUDGET		$26,198
One-half payable by State		$13,099
One-half payable by parties to Judgment		$13,099
Less estimated funds on hand July 1, 1974		1,099
Amount to be billed		$12,000

APPROVED:

UPPER LOS ANGELES RIVER AREA ADVISORY BOARD

By Robert E. James
Robert James
Chairman

Date Feb. 4, 1974

STATE OF CALIFORNIA
The Resources Agency
DEPARTMENT OF WATER RESOURCES
Southern District

By Jack J. Coe
Jack J. Coe
District Engineer
Southern District
and Watermaster

Date Feb. 1, 1974

TABLE 14. APPORTIONMENT OF PARTIES' SHARE OF 1974-75 BUDGET

Party	Mutually Prescriptive Right, in acre-feet	Apportionment to be paid
San Fernando Basin		
Burbank, City of	17,760	$ 1,670.31
Forest Lawn Memorial Park Association	1,060	99.69
Glendale, City of	16,141	1,518.05
Lockheed Aircraft Corporation	310	29.16
Los Angeles, City of	82,310	7,741.17
Valhalla Memorial Park	240	22.57
Van de Kamp's Holland Dutch Bakers, Inc.	120	11.29
Verdugo Basin		
Crescenta Valley County Water District	1,988	186.97
Glendale, City of	2,327	218.85
Sylmar Basin		
Fidelity Federal Savings and Loan Association	527	49.56
Los Angeles, City of	2,440	229.48
San Fernando, City of	2,370	222.90
TOTALS	127,593	$ 12,000.00
Recapitulation for:		
Glendale, City of	18,468	$ 1,736.90
Los Angeles, City of	84,750	$ 7,970.65

TABLE 15. STATEMENT OF JULY 1, 1974 – JUNE 30, 1975 INCOME AND EXPENDITURES

Item	Parties		State		Parties and State	
Income						
From 1974-75 budget	$12,000.00		$13,099.00		$25,099.00	
Balance from 1973-74	2,966.00		0.00		2,966.00	
TOTAL INCOME		$14,966.00		$13,099.00		$28,065.00
Expenditures						
Salaries and wages	$9,039.72		$9,039.73		$18,079.45	
Operating expenses						
Miscellaneous indirect cost[a]	3,103.63		3,103.63		6,207.26	
Truck rental & operation	408.92		408.91		817.83	
Printing annual report	154.22		154.22		308.44	
Electronic machine computing	275.23		275.22		550.45	
Other[b]	75.04		75.05		150.09	
TOTAL EXPENDITURES		$13,056.76		$13,056.76		$26,113.52
BALANCE		$ 1,909.24[c]		$ 42.24		$ 1,951.48

a/ Rent, utilities, auto rental, communications, retirement, employee's health plan, and workman's compensation insurance.
b/ General supplies, travel-in-state, training.
c/ Total credit to parties in 1975-76 fiscal year, subject to delayed charges or credits.

During the sixth year of Watermaster Service, the work load increased slightly. As a result, the expenditures in 1974-75 were higher when compared with the 1973-74 fiscal year.

Income and expenditures for Watermaster Service during the 1974-75 fiscal year are shown in Table 15. In accordance with the California Water Code, any credit or debit balance remaining at the end of the fiscal year is carried forward into the succeeding fiscal year. The parties' share of the carryover into the 1975-76 fiscal year totaled $1,909.24.

Approved Budget for 1975-76

The tentative budget for the fiscal year July 1, 1975, through June 30, 1976, was submitted by the Watermaster for review and approval by the Advisory Board on February 10, 1975. The parties had 30 days after the mailing of the annual report for submitting their objections to the 1975-76 budget which was made a part of the report.

No objections were received by March 31, 1975, and the budget became final. Invoices for each party's proportionate share of the budget were mailed on April 1 and all payments were made before May 1, 1975. Table 16 presents the 1975-76 budget as approved by the Advisory Board on February 10, 1975. Each Party's share of the 1975-76 budget is shown in Table 17.

TABLE 16. APPROVED BUDGET FOR THE FISCAL YEAR JULY 1, 1975 THROUGH JUNE 30, 1976

ULARA Watermaster Service Area

Salaries and wages	$21,814	
Operating expenses	8,926	
TOTAL BUDGET		$30,740
One-half payable by State		15,370
One-half payable by parties to Judgment		15,370
Less estimated funds on hand July 1, 1975		- 1,870
Amount to be billed		$13,500

APPROVED:

UPPER LOS ANGELES RIVER AREA ADVISORY BOARD

By _____
Robert James
Chairman

Date Feb 10, 1975

STATE OF CALIFORNIA
The Resources Agency
DEPARTMENT OF WATER RESOURCES
Southern District

By _____
Jack J. Coe
District Engineer
Southern District
and Watermaster

Date Feb. 27, 1975

TABLE 17. APPORTIONMENT OF PARTIES SHARE OF 1975-76 BUDGET

Party	Mutually Prescriptive Right, in acre-feet	Apportionment to be paid
San Fernando Basin		
Burbank, City of	17,760	$ 1,879.10
Forest Lawn Memorial Park Association	1,060	112.15
Glendale, City of	16,141	1,707.80
Lockheed Aircraft Corporation	310	32.80
Los Angeles, City of	82,310	8,708.82
Valhalla Memorial Park	240	25.39
Van de Kamp's Holland Dutch Bakers, Inc.	120	12.70
Verdugo Basin		
Crescenta Valley County Water District	1,988	210.34
Glendale, City of	2,327	246.21
Sylmar Basin		
Fidelity Federal Savings and Loan Association	527	55.76
Los Angeles, City of	2,440	258.17
San Fernando, City of	2,370	250.76
TOTALS	127,593	$ 13,500.00
Recapitulation for:		
Glendale, City of	18,468	$ 1,954.01
Los Angeles, City of	84,750	8,966.99

Tentative Budget for 1976-77

In accordance with the original Judgment, the Watermaster hereby submits a tentative budget for the fiscal year July 1, 1976 through June 30, 1977. The tentative budget submitted herewith was reviewed by the Advisory Board on February 5, 1976 (see Table 18).

TABLE 18. TENTATIVE BUDGET FOR THE FISCAL YEAR JULY 1, 1976 THROUGH JUNE 30, 1977

ULARA Watermaster Service Area

Salaries and wages	$23,390	
Operating expenses	11,406	
TOTAL BUDGET		$34,796
One-half payable by State		17,398
One-half payable by parties to Judgment		17,398
Less estimated funds on hand July 1, 1976		0
Amount to be billed		$17,398

APPENDIX A

RESTRICTED PUMPING OF
UPPER LOS ANGELES RIVER AREA PARTIES
SEPTEMBER 1975

AND

COPIES OF LEGAL DOCUMENTS

APPENDIX A

TABLE OF CONTENTS

RESTRICTED PUMPING OF UPPER LOS ANGELES RIVER AREA PARTIES SEPTEMBER 1974

Party [a]	Restricted Pumping, in acre-feet per year	
SAN FERNANDO BASIN		
Bartholomaus, William O. and Ellen S. Dubois	15.00	
Burbank, City of	13,649.00	
Conrock Formerly Known as Consolidated Rock Products Company Successor of California Materials Company	0.00 [b]	
Forest Lawn Memorial Park Association Includes: American Security and Fidelty Company Forest Lawn Cemetery Association Forest Lawn Company	814.00	
Glendale, City of	12,405.00	
Harper, Cecilia DeMille Successor of Estate of Cecil B. DeMille	0.00	
Livingston–Graham, Incorporated Successor of Livingston Rock and Gravel Company	0.00 [b]	
Lockheed Aircraft Corporation	239.00	
Los Angeles, City of	63,257.00	
McCabe, Celeste Louise	1.00	
Mena, John and Barbara Successor of Neva Bartlett Holmgrin	0.00	
Monteria Lake Association	0.00	
Sears, Roebuck & Company	0.00 [b]	
Southern Service Company, Limited	0.00	
Sportsmen's Lodge, Incorporated Formerly known as Sportsmen's Lodge Banquet Corporation	0.00	
Toluca Lake Property Owners' Association	23.00	
U. S. Mortgage Successor of Wright, Marion J. and Alice M.	00.00	
Valhalla Memorial Park Includes: Valhalla Mausoleum Park Valhalla Properties	184.00	
Van de Kamp's Holland Dutch Bakers, Incorporated	93.00	
Walt Disney Productions	00.00 [b]	
SUBTOTALS (SAN FERNANDO BASIN)		90,680.00

RESTRICTED PUMPING OF UPPER LOS ANGELES RIVER AREA PARTIES SEPTEMBER 1974

(Continued)

Party [a]	Restricted Pumping, in acre-feet per year	
SYLMAR BASIN		
Brown, Charles T. Successor of Stella M. Brown	0.00	
Church of Jesus Christ of the Latter Day Saints Successor of Henry G. Stetson	0.00	
Los Angeles, City of	2,818.00	
Moordigian, Kisag	46.00	
Plumb, Gerald B. and Lucille M. and Hersh, David L. and Eleanor A. Successor of Fidelity Federal Savings and Loan Association Successor of Boise Cascade Building Company Successor of The Wellesley Company Successor of Maxine Duckworth and John E. Mullin	609.00	
San Fernando, City of	2,737.00	
SUBTOTALS (SYLMAR BASIN)		6,210.00
VERDUGO BASIN		
Crescenta Valley County Water District	3,294.00	
Glendale, City of	3,856.00	
SUBTOTALS (VERDUGO BASIN)		7,150.00
TOTAL (ULARA)		104,040.00

[a] Parties that are not listed on this table have zero "Restricted Pumping."

[b] Party is allowed to extract ground water pursuant to Stipulated Judgment with City of Los Angeles.

COPIES OF LEGAL DOCUMENTS, TRANSFERS OF RESTRICTED PUMPING

WATER USE LICENSE AGREEMENT

FOREST LAWN COMPANY (Licensor) grants to CITY OF BURBANK (Licensee):

A license to extract 800 acre-feet of Licensor's restricted pumping allocated to Licensor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles County Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff, vs. City of San Fernando, et al., Defendants", during the period commencing as of the date hereof, and continuing to and including September 30, 1975.

Said License is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.

(3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this License.

FOREST LAWN COMPANY warrants that it has 800 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or license any other person to pump any part of said 800 acre-feet during period from date hereof through September 30, 1975.

FOREST LAWN COMPANY agrees that it will pay the secured value tax on water extracted pursuant to this Agreement.

Dated: December 19, 1974

CITY OF BURBANK
By City Manager
Attest: City Clerk

FOREST LAWN COMPANY
By
Title: Vice President

(4) Licensee shall be entitled to the rights and subject to the obligations and liabilities contained in a Supplemental License Agreement dated October 1, 1974 between Licensor and Licensee.

Licensor warrants that it has two hundred thirty-nine (239) acre-feet per water year of Restricted Pumping right and that Licensor has not pumped and will not pump or permit or license any other person to pump any part of the one hundred eighty-one (181) acre-feet granted annually by this License during the period of October 1, 1974 through September 30, 1976.

This License is entered into as of the first day of October, 1974.

LOCKHEED AIRCRAFT CORPORATION
By Attorney-in-Fact

CITY OF BURBANK
By City Manager

ATTEST: By City Clerk
By: Assistant

THIS OFFICE INSTRUMENT IS A CORRECT COPY OF THE ORIGINAL ON FILE IN THIS OFFICE
ATTEST: DATE
City Clerk of the City of Burbank
By

WATER USE LICENSE AGREEMENT

LOCKHEED AIRCRAFT CORPORATION (hereinafter referred to as "Licensor") hereby grants to CITY OF BURBANK, City Hall, Burbank, California (hereinafter referred to as "Licensee") a license to extract one hundred eight-one (181) acre-feet of water annually of Licensor's Restricted Pumping right allocated to Licensor under and pursuant to Judgment dated March 14, 1968 and entered in Los Angeles Superior Court, Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants," during the period commencing October 1, 1974 and continuing to and including September 30, 1976.

Said License is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Licensor during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of this License.

(3) Licensee shall note, in any recording of water production for the period of this License, that said pumping was done pursuant to this License.

-1-

WATERMASTER SERVICE
Department of Water Resources
Post Office Box 6598
Los Angeles, CA 90055

Telephone Nos: 680-4119
680-4206

UPPER LOS ANGELES RIVER AREA (ULARA)
REDUCTION OF EXTRACTIONS BY CITY OF LOS ANGELES
October 1, 1974

I. ESTIMATED GROUNDWATER PRODUCTION BY PARTIES TO STIPULATED JUDGMENTS

WATER YEAR 1974-75

STIPULATING PARTIES	Extractions, in acre-feet Prior water year, 1973-1974	Current water year,* 1974-1975
1. California Materials Company	*	*
2. Conrock Co.	1878.63	1700
3. Livingston-Graham, Inc.	518.48	470
4. Sears, Roebuck and Company	191.66	180
5. Walt Disney Productions	1313.39	1200
TOTAL	3902.14	3550

*Amounts greater or less than 10% of the amount extracted during the prior year shall be justified under remarks.

II. The completion and filing of this notice with the Watermaster fulfills the requirement of notification by the City of Los Angeles to the Watermaster pursuant to paragraph V. of the "Policies and Procedures".

III. Remarks

* California Materials Co. merged with Conrock on December 31, 1972. This was acknowledged by the Watermaster on February 9 1973.

DUANE L. GROMLESON
Engineer Los Angeles Aqueduct
By (Designee)
Date November 15, 1974
Telephone No. 481-6191

WATER LICENSE AGREEMENT

FOREST LAWN COMPANY (Licensor) grants to CECILIA DE HILLE HARPER, (Licensee): a license to extract 6 acre-feet of Licensor's Restricted Pumping allocated to Licensor (or predecessors in interest) under and pursuant to judgment dated March 14, 1968, as entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff, vs. City of San Fernando, et al., Defendants", during the period commencing October 1, 1974, and continuing to and including September 30, 1975.

Said License is granted, subject to the following conditions;

(1) Licensee shall exercise said right and extract the water on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said rights acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.

(3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this License.

FOREST LAWN COMPANY warrants that it has 6 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or License any other person to pump any part of said 6 acre-feet during period of October 1, 1974, through September 30, 1975.

Dated: _____ FOREST LAWN COMPANY

CECILIA DE HILLE HARPER By: _____

By _____ Title: Vice President

GRANT DEED and ASSIGNMENT

RIVERWOOD RANCH MUTUAL WATER COMPANY, a corporation, grants to THE CITY OF LOS ANGELES, a municipal corporation, the real property in the County of Los Angeles, State of California, described as.

SECTION A

PARCEL 1 A plot of ground around the pump and well of the Riverwood Ranch Mutual Water Company and the necessary appurtenances thereto, being within

That portion of Lot 1 of the West Portion of Tujunga Ranch, in the City of Los Angeles, County of Los Angeles, State of California, as shown on a map recorded in Book 29, Pages 51 and 52 of Miscellaneous Records in the office of the County Recorder of said county, described as follows

Beginning at the southeasterly corner of the existing fence around the pump house which is 11.00 feet easterly and 10.5 feet southerly of the center of the well; thence northerly parallel to the easterly side of pump house 23.00 feet; thence at right angles westerly 20.00 feet, thence at right angles southerly 23.00 feet; thence at right angles easterly 20.00 feet to the point of beginning.

PARCEL 2 An easement for ingress and egress and for utilities over a roadway existing or future, of the width or not less than 20 feet throughout its length, from any roadway in the Riverwood Ranch area wherein ingress and egress is not restricted to the Riverwood Ranch Mutual Water Company or to any roadway in a street dedicated to the said City of Los Angeles.

PARCEL 3 A perpetual right to maintain embankments, bulkheads, diversion dams, drains, ditches, streams and storage ponds within that portion of said Lot 1 belonging to the grantor herein, his heirs and assigns, provided the plan of such embankments, bulkheads, diversion dams, drains, ditches, streams and storage ponds is agreeable to all parties concerned.

SECTION B

All physical property of the Riverwood Ranch Mutual Water Company (including construction work in progress) used or useful (in the case of construction work in progress, potentially useful) in rendering water service to customers within the area shown in drawing titled Schedule A-1, marked Exhibit "A" attached hereto and made a part hereof and by reference incorporated herein, itemized as follows

ITEMS OF PROPERTY	QUANTITY
Footage of Main 4" in diameter	4,150
Footage of mains less than 4" in diameter	2,850
Service Connections	37
Meters	38
Fire Hydrants	8
Wells	1
Units of Pumping Equipment	1
Steel Tank	1

SECTION C

All items of books, maps and records as listed on Schedule A-4 attached hereto marked Exhibit "B", and hereby made a part hereof.

SECTION D

All water, in the tank and pipes, which is included in the property above described, on the date herein.

EXCEPTING AND RESERVING to the Grantor corporation, from all of the property and rights herein referred to or described, the following items

ASSETS NOT TO BE TRANSFERRED TO THE CITY

1. Accounts Receivable
2. Cash, special deposits, and working funds.
3. Miscellaneous equipment and tools.

FURTHER, RIVERWOOD RANCH MUTUAL WATER COMPANY, a corporation, assigns to THE CITY OF LOS ANGELES, a municipal corporation,

PARCEL 4 The right to use property of the United States Forest Service, Department of Agriculture, for the purpose of maintaining storage tanks, with ingress and egress for vehicular traffic and for an inlet-outlet pipeline.

Dated: JULY 3, 1975

APPROVED AS TO FORM AND LEGALITY BURT PINES CITY ATTORNEY

MAY 2, 1975

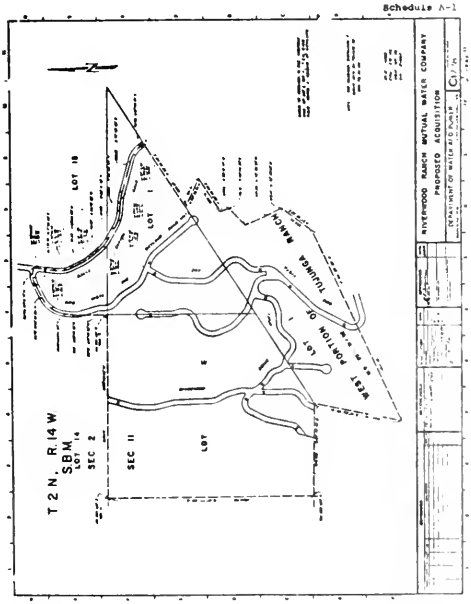
Assistant City Attorney

RIVERWOOD RANCH MUTUAL WATER COMPANY

By _____ President

And _____ Secretary

Schedule A-1



Sheet 2 of 7
EV-3626

Exhibit "A"

MAPS AND RECORDS TO BE DELIVERED TO THE DEPARTMENT

All of the following records in possession of the Company and which pertain to the property to be transferred to the Department within the System area identified in Schedule A-1 shall be delivered to the Department at the time the property is transferred, except as otherwise stated herein:

1. Operating Records

   Pumping records and all other records pertaining to the well.

2. Engineering Records

   All drawing pertaining to installation of mains, services, and hydrants for this System.

3. Land Records

   All documents and records pertaining to lands, easements, and rights of way which are identified in Schedule A-3.

4. Billing Department Records

   Records pertaining to the billing of customers.

WATER LICENSE AGREEMENT

FOREST LAWN COMPANY (Licensor) grants to SOUTHERN SERVICE COMPANY, LTD. (Licensee): a license to extract 45 acre-feet of Licensor's Restricted Pumping allocated to Licensor (predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing October 1, 1974, and continuing to and including September 30, 1975.

Said license is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said rights acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.

(3) Licensee shall note, in any recording of water production of the period of agreement, that said pumping was done pursuant to this License.

(4) The above described judgment is now on appeal by the City of Los Angeles and the rights herein granted are dependent on said appeal being unsuccessful; and this license shall be terminated automatically without liability to Licensor if said appeal is successful.

FOREST LAWN COMPANY warrants that it has 45 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or license any other person to pump any part of said 45 acre-feet during period of October 1, 1974, through September 30, 1975.

DATED August 30, 1975.

FOREST LAWN COMPANY

By: [signature]

TITLE Vice President

SOUTHERN SERVICE COMPANY, LTD.

By [signature]

TITLE [illegible]

Van de Kamp's

HOLLAND DUTCH BAKING
DIVISION GENERAL ROST CORPORATION

[illegible] DRIVE LOS ANGELES, CALIFORNIA [illegible]

WATER USE LICENSE AGREEMENT

VAN DE KAMP'S HOLLAND DUTCH BAKERS, a Division of General Rost Corporation, hereby grants to TOLUCA LAKE PROPERTY ASSOCIATION, INC., a licenee to extract 7 acre-feet of licenser's Restricted Pumping allocated to licensor (or predecessors in interset) under and pursuant to Judgment dated March 14, 1968 and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs City of San Fernando, et al., Defendants", during the period commencing October 1, 1974 and continuing to and including Sept. 30, 1975.

Said license is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of VAN DE KAMP'S HOLLAND DUTCH BAKERS during the period above specified and put the same to beneficial use and licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of licensor.

(2) Licensee shall notify the Watermastar that said pumping was done pursuant to this license and provide the Watermaster with a copy of the document.

(3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping wee done pursuant to this license

VAN DE KAMP'S HOLLAND DUTCH BAKERS warrants that he has 7 acre-feet of Restricted Pumping and that he has not pumped and will not pump or permit or licenee any other pareon to pump any part of said 7 acre-feet during period of Oct. 1, 1974 through Sept. 30, 1975.

DATED: 10/18/74

VAN DE KAMP'S HOLLAND DUTCH BAKERS

By [signature]

Title President

(Notary)

TOLUCA LAKE PROPERTY ASSOCIATION, INC

By [signature]

Title Vice-President

WATER USE LICENSE AGREEMENT

LOCKHEED AIRCRAFT CORPORATION (hereinafter referred to as "Licensor") hereby grants to VALHALLA MEMORIAL PARK, a non-profit California corporation, 10621 Victory Boulevard, North Hollywood, California 91606 (hereinafter referred to as "Licensee") a license to extract twenty-six (26) acre-feet of water of Licensor's Restricted Pumping allocated to Licensor under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court, Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al, Defendsnts" during the period commencing October 1, 1974 and continuing to and including September 30, 1976.

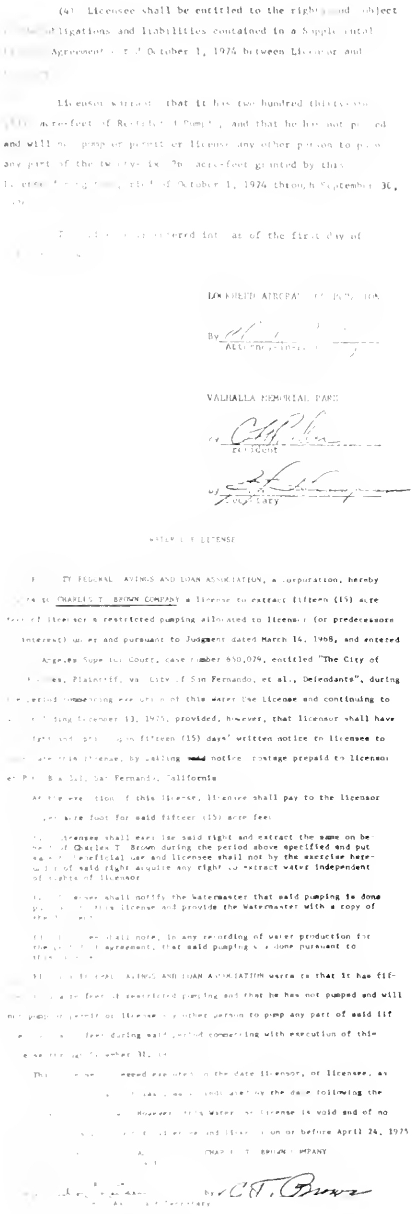
Said License is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Licensor during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right to acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of this License.

(3) Licensee shall note, in any recording of water production for the period of this License, that said pumping was done pursuant to this License.

-1-



(4) Licensee shall be entitled to the right [illegible] and subject [illegible] obligations and liabilities contained in a Supplemental [illegible] Agreement [illegible] October 1, 1974 between Licensor and [illegible]

Licensor warrants that it has two hundred thirty-[illegible] acre-feet of Restricted Pumping, and that he has not pumped and will not pump or permit or license any other person to pump any part of the twenty-six [illegible] acre-feet granted by this License during [illegible] October 1, 1974 through September 30, [illegible]

[illegible] entered into as of the first day of [illegible]

LOCKHEED AIRCRAFT [illegible]

By [illegible]
Attorney-in-[illegible]

VALHALLA MEMORIAL PARK

By [illegible]
President

By [illegible]
Secretary

WATER USE LICENSE

[illegible] TY FEDERAL SAVINGS AND LOAN ASSOCIATION, a corporation, hereby [illegible] to CHARLES T. BROWN COMPANY a license to extract fifteen (15) acre feet of licensor's restricted pumping allocated to licensor (or predecessors [illegible] interest) under and pursuant to Judgment dated March 14, 1968, and entered [illegible] Angeles Superior Court, case number 650,079, entitled "The City of [illegible] es, Plaintiff, vs. City of San Fernando, et al., Defendants", during the period commencing [illegible] of this Water Use License and continuing to [illegible] ding December 31, 1975, provided, however, that licensor shall have [illegible] upon fifteen (15) days' written notice to licensee to [illegible] this license, by mailing said notice postage prepaid to licensor [illegible] San Fernando, California

At the execution of this license, licensee shall pay to the licensor [illegible] per acre foot for said fifteen (15) acre feet.

[illegible] licensee shall exercise said right and extract the same on behalf of Charles T. Brown during the period above specified and put [illegible] beneficial use and licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of rights of licensor.

[illegible] shall notify the Watermaster that said pumping is done [illegible] this license and provide the Watermaster with a copy of [illegible]

[illegible] shall note, in any recording of water production for the [illegible] agreement, that said pumping was done pursuant to [illegible]

[illegible] FEDERAL SAVINGS AND LOAN ASSOCIATION warrants that it has fif[illegible] acre feet of restricted pumping and that he has not pumped and will not pump or permit or license any other person to pump any part of said fif[illegible] feet during said period commencing with execution of this [illegible] through December 31, 19[illegible]

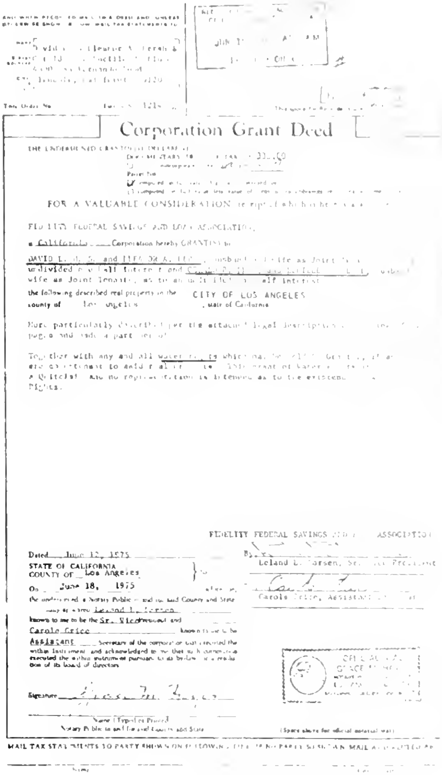
This [illegible] executed on the date licensor, or licensee, as [illegible] indicated by the date following the [illegible] However, this Water Use License is void and of no [illegible] on or before April 24, 1975

CHARLES T. BROWN COMPANY

By C.T. Brown

[illegible] Assistant Secretary

4-22-75



AND WHEN RECORDED MAIL THIS DEED AND, UNLESS OTHERWISE SHOWN BELOW, MAIL TAX STATEMENTS TO

NAME David [illegible] Eleanor [illegible]
[illegible]
[illegible] San Fernando Road
[illegible] Angeles, California [illegible]

JUN 1[illegible] A.M.

Title Order No. [illegible] Escrow No. 121[illegible]

THIS SPACE FOR RECORDER'S USE

Corporation Grant Deed

THE UNDERSIGNED GRANTOR(S) DECLARE(S)
DOCUMENTARY TRANSFER TAX IS $ 33.00
[illegible]
Parcel No.
☑ computed on full value of property conveyed, or
☐ computed on full value less value of liens or encumbrances remaining at time of sale

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

FIDELITY FEDERAL SAVINGS AND LOAN ASSOCIATION,

a California Corporation hereby GRANT(S) to

DAVID L. [illegible] and ELEANOR A. [illegible], husband and wife as Joint Tenants, as to an undivided one-half interest and [illegible], husband and wife as Joint Tenants, as to an undivided one-half interest

the following described real property in the CITY OF LOS ANGELES
county of Los Angeles, state of California

More particularly described per the attached legal description [illegible] hereto and made a part hereof.

Together with any and all water rights which may be [illegible] are appurtenant to said real [illegible] grant of water [illegible] a Quitclaim and no representation is intended as to the existence [illegible] Rights.

FIDELITY FEDERAL SAVINGS AND LOAN ASSOCIATION

Dated June 12, 1975

By [illegible]
Leland L. Larsen, Senior Vice President

Carole Grice, Assistant Secretary

STATE OF CALIFORNIA
COUNTY OF Los Angeles } ss.

On June 18, 1975 before me, the undersigned, a Notary Public in and for said County and State, personally appeared Leland L. Larsen known to me to be the Sr. Vice President, and Carole Grice known to me to be Assistant Secretary of the corporation that executed the within instrument and acknowledged to me that such corporation executed the within instrument pursuant to its by-laws or a resolution of its board of directors.

Signature [illegible]

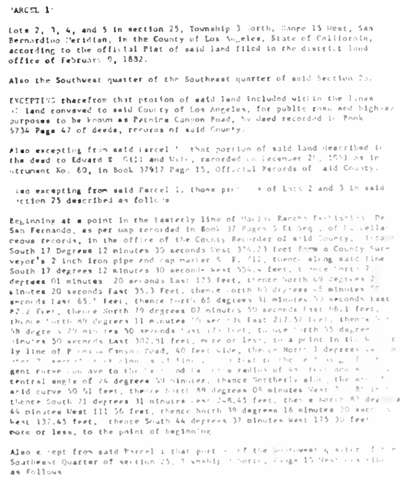
Name (Typed or Printed)
Notary Public in and for said County and State

OFFICIAL SEAL [illegible]

(Space above for official notarial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE; IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name



PARCEL 1:

Lots 2, 3, 4, and 5 in section 25, Township 3 North, Range 15 West, San Bernardino Meridian, in the County of Los Angeles, State of California, according to the official Plat of said land filed in the district land office of February 9, 1882.

Also the Southwest quarter of the Southeast quarter of said Section 25.

EXCEPTING therefrom that portion of said land included within the lines of land conveyed to said County of Los Angeles, for public road and highway purposes to be known as Pacoima Canyon Road, by deed recorded in Book 5734 Page 47 of deeds, records of said County.

Also excepting from said Parcel 1 that portion of said land described in the deed to Edward E. Gill and Wife, recorded on December 27, 1951 as Instrument No. 60, in Book 37917 Page 15, Official Records of said County.

Also excepting from said Parcel 1, those portions of Lots 2 and 3 in said Section 25 described as follows:

Beginning at a point in the Easterly line of [illegible] Rancho Ex-Mission De San Fernando, as per map recorded in Book 37 Pages 5 Et Seq., of Miscellaneous records, in the office of the County Recorder of said County, distant South 17 Degrees 12 minutes 30 seconds West 374.23 feet from a County Surveyor's 2 inch iron pipe and cap marked S. F. 712, thence along said line South 17 degrees 12 minutes 30 seconds West 554.[illegible] feet, thence North 7[illegible] degrees 01 minutes 20 seconds East 173 feet, thence North 69 degrees [illegible] minutes 20 seconds East 35.3 feet, thence North 6[illegible] degrees [illegible] minutes [illegible] seconds East 65.[illegible] feet, thence North 65 degrees 31 minutes 50 seconds East 82.2 feet, thence North 79 degrees 07 minutes 50 seconds East 66.1 feet, thence North 8[illegible] degrees 11 minutes [illegible] seconds East 217.57 feet, thence [illegible] 58 degrees 29 minutes 50 seconds East 17[illegible] feet, thence North 55 degrees [illegible] minutes 50 seconds East 302.91 feet, more or less, to a point in the [illegible] ly line of Pacoima Canyon Road, 40 feet wide, thence North 1 degrees [illegible] along said line [illegible] feet to the [illegible] gent curve concave to the [illegible] and having a radius of 4[illegible] feet and a central angle of 74 degrees 59 minutes, thence Northerly along the arc of said curve 50.51 feet, thence North 89 degrees 09 minutes West [illegible] thence South 71 degrees 31 minutes West 2[illegible]8.45 feet, thence North 8[illegible] degrees 44 minutes West 111.56 feet, thence North 39 degrees 16 minutes 20 seconds West 137.45 feet, thence South 44 degrees 37 minutes West 175.30 feet more or less, to the point of beginning.

Also except from said Parcel 1 that portion of the Southwest quarter of the Southeast Quarter of section 25, Township 3 North, Range 15 West, described as Follows

Beginning at a point on the Easterly Boundary of said Southwest quarter, distant Thence North 01 degrees 03 minutes 34 seconds East 642.89 feet from the Southeast Corner of said Southwest quarter; thence, along the boundaries of said Southwest quarter, South 01 degrees 03 minutes 34 seconds West 642.89 feet to said Southeast corner; thence, along the Southerly boundary of said Southwest quarter, South 89 degrees 42 minutes 02 seconds West 843.94 feet to a point; thence, leaving said boundaries, North 09 degrees 07 minutes 44 seconds East 153.01 feet; thence, North 03 degrees 37 minutes 07 seconds West 110.09 feet, thence, North 09 degrees 02 minutes 32 seconds East 71.00 feet, thence, North 27 degrees 51 minutes 04 seconds East 55.00 feet, thence North 81 degrees 35 minutes 56 seconds West 168.09 feet, thence North 10 degrees 47 minutes 54 seconds East 371.00 feet, thence South 88 degrees 17 minutes 10 seconds East 169.00 feet; thence South 33 degrees 45 minutes 21 seconds East 133.00 feet, thence South 09 degrees 18 minutes 35 seconds East 122.00 feet; thence North 84 degrees 44 minutes 22 seconds East 161.00 feet, thence North 05 degrees 55 minutes 15 seconds East 66.00 feet; thence North 68 degrees 42 minutes 32 seconds East 165.00 feet, thence North 37 degrees 08 minutes 48 seconds East 48.82 feet; thence South 74 degrees 13 minutes 32 seconds East 286.73 feet to the point of beginning.

PARCEL 2

Those portions of Blocks 4 and 10 and Harding Avenue, lying Between said Gloria, in the Maclay, Rancho Ex-Mission De San Fernando, in the City of Los Angeles, in the County of Los Angeles, State of California, as per map recorded in Book 37 Pages 5 to 16 of Miscellaneous Records, in the office of the County Recorder of said County, described as a whole as follows

Beginning at a point in the Easterly line of said Maclay Rancho, distant [illegible] North 17 degrees 12 minutes East 170.23 feet from the South [illegible] Township 3 North, Range 15 West, San Bernardino Meridian; [illegible] 17 feet along a tangent curve concave Westerly having a [illegible] thence tangent to said curve North 2 degrees 24 minutes [illegible] 72 feet to the beginning of a tangent curve concave East[illegible] a radius of 450 feet, thence northerly along said curve 157.56 [illegible] to said curve North 16 degrees 23 minutes 50 seconds [illegible] the beginning of a tangent curve concave Westerly having a radius of [illegible] feet, thence northerly along said curve 127.70 feet, thence [illegible] degrees 58 minutes 45 seconds West 108.61 feet to the [illegible] tangent curve concave Southeasterly, having a radius of [illegible] feet, thence along said curve 295.19 feet; thence along a radial line [illegible] North 0 degrees 11 minutes 25 seconds West 40 feet, thence [illegible] 25 degrees 44 minutes 20 seconds East 458.03 feet, thence North 14 degrees 13 minutes 06 seconds East 270.[illegible] feet, thence North 26 degrees 01 minutes 50 seconds East 409.[illegible] feet, thence North 2 degrees 01 minutes 30 seconds East 296.5 feet, thence North 2 degrees 51 minutes 20 seconds East 195.5 feet, thence North 12 degrees 11 minutes 20 seconds East 289.6 feet; thence North 19 degrees 03 minutes 40 seconds East 394.1 feet; thence North 2 degrees 21 minutes 20 seconds East 480.6 feet; thence North 46 degrees 07 minutes 50 seconds East 113.7 feet to a point in the East line of said Maclay Rancho distant South 17 degrees 12 minutes East 306.18 feet from the angle point in [illegible] said East line known as S. P. # 12, thence along said East line South 17 degrees 12 minutes West 4039.16 feet to the point of beginning.

EXCEPTING from said Parcel 2, that portion of said land described in the deed to Edward P. Hill and Wife, recorded on December 29, 1951 as Instrument No. 66 [illegible] 27917 Page 15, Official Records of said County.

Also excepting from said Parcel 2, any portion of said land described in the declaration of taking in case No. 16774-PH U. S. D. C. Southern District of California, Central Division, a certified copy of said declaration being recorded on May 18, 1956 as Instrument No. 2637 in book 44603 Page 166, Official Records of said County.

PARCEL 3

Those portions of Blocks 4 and 10 of the Maclay Rancho Ex-Mission of San Fernando, in the City of Los Angeles, in the County of Los Angeles, State of California, as per map recorded in Book 37 Page 5 Et. Seq. of Miscellaneous Records, in the office of the County Recorder of said County and of adjoining Streets and Avenues, hereby vacated as shown on the map recorded in Book 407 Pages 24 and 25 of said Miscellaneous records, described as a whole as follows:

Beginning at a point in the Southwesterly line of the 63.60 acre parcel of land described in the deed to Kinner Corporation, recorded in Book 17636, Page 320, official records of said County, distant Southeasterly along said Southwesterly line 495.[illegible] feet from the center line of Gridley Avenue (formerly Pacoima Avenue) 60 feet wide, now vacated; thence from said point of beginning South 4 degrees 52 minutes West 690 feet, thence South 33 degrees 09 minutes 07 seconds West 1295.06 feet, thence South 17 degrees 49 minutes West 740 feet, more or less, to the center line of Ridgedale Street (formerly 12th Street) 60 feet wide, thence along said center line South 41 degrees 10 minutes 25 seconds East 818.43 feet, more or less, to the center line of Maclay Street, thence along the center line of Maclay Street North 48 degrees 47 minutes 55 seconds East 1228.29 feet, more or less, to the Easterly line of said Maclay Rancho; thence Northerly along said Easterly line to the most Southerly corner of the land described in the deed to Kinner Corporation, recorded in Book 15586 Page 227 of said Official Records, thence northerly along the various courses of said [illegible] line to the Southwesterly line of said 63.60 acre parcel of [illegible] Southwesterly line South 68 degrees 42 minutes 25 [illegible] 2[illegible] feet, more or less, to the most Southerly corner of said 63.60 acre parcel; thence along the Southwesterly line of said 63.60 acre Parcel North 34 degrees 08 minutes 45 seconds West 912.75 feet, more or less to the point of beginning.

EXCEPTING from said Parcel 3, that portion of said land described in the declaration of taking in case No. 16774-PH U. S. D. C. Southern District of California, Central Division, a certified copy of said declaration being recorded on May 18, 1956 as Instrument No. 2637 in Book 44603 Page 166, Official Records of said County.

PARCEL 4

Those portions of Block 4 of Maclay Rancho Ex-Mission of San Fernando, in the City of Los Angeles, in the County of Los Angeles, State of California, as per map recorded in Book 37 Page 5 of Miscellaneous records, in the office of the County Recorder of said County and of the vacated Avenues adjoining said Block 4, described as a parcel of land containing exactly 63.60 acres of land [illegible] the center line of said Parcel of land, being the center line of Gridley Avenue (formerly Pacoima Avenue), the Easterly line being described as follows:

Beginning at the intersection of said center line of Gridley Avenue with the northwesterly line of said Block 4, thence Southeasterly and Southwesterly to and along the boundary of said Block 4, to the most Northerly corner of the land described in deed to Kinner Corporation, recorded January 16, 1939, as Instrument No. 139, in Book 15586 Page 227, Official Records of said County, thence S. Southerly along the Northwesterly lines of the land described in said deed to a point in the center line of Harding Avenue, vacated, the Southwesterly line of said 63.60 acre parcel of land being said center line of Harding Avenue, and the Southwesterly line of said 63.60 acre parcel of land being a line parallel with the Southwesterly line of said Block 4.

EXCEPT from said Parcel 4, that portion of said land described in the deed to [illegible] and Wife, recorded on December 26, 1951, as Instrument No. [illegible] 27917, Page 15, Official Records of said County

PARCEL 5:

The West half of the Southeast quarter of section 24, Township 3 North, Range 15 West, San Bernardino Meridain, in the County of Los Angeles, State of California, according to the official Plat of said land filed in the district land office on February 9, 1882.

PARCEL 6:

Those portions of Lots 2 and 3, section 25, Township 3 North, Range 15 West in the County of Los Angeles, State of California, according to the official plat of said land filed in the district land office on February 9, 1882, described as follows:

Beginning at a point in the Easterly line of the Maclay Rancho Ex-Mission De San Fernando, as per map recorded in Book 37 Pages 5 Et Seq. of Miscellaneous Records in the Office of the County Recorder of said County, distant South 17 degrees 12 minutes 30 seconds West 324.23 feet from a County Surveyor's 2 inch iron pipe and cap marked S. P. #12; thence along said line South 17 degrees 12 minutes 30 seconds West 554.4 feet, thence North 76 degrees 01 minutes 20 seconds East 123 feet, thence North 64 degrees 28 minutes 20 seconds East 35.3 feet, thence North 60 degrees 48 minutes 50 seconds East 63.5 feet, thence North 68 degrees 31 minutes 50 seconds East 82.2 feet, thence North 79 degrees 07 minutes 50 seconds East 66.1 feet; thence North 89 degrees 11 minutes 50 seconds East 217.57 feet; thence North 60 degrees 29 minutes 50 seconds East 175 feet, thence North 55 degrees 38 minutes 50 seconds East 302.81 feet,more or less, to a point in the Westerly line of Pacoima Canyon Road 40 feet wide, thence North 1 degrees 24 minutes 20 seconds East along said line 249.50 feet to the beginning of a tangent curve concave to the West and having a radius of 480 feet and a total central angle of 24 degrees 59 seconds; thence Northerly along the arc of said curve 50.61 feet; thence North 89 degrees 08 minutes West 231.65 feet, thence South 71 degrees 31 minutes West 248.45 feet, thence North 87 degrees 44 minutes West 111.56 feet; thence North 59 degrees 16 minutes 30 seconds West 137.45 feet; thence North 44 degrees 37 minutes West 173.30 feet, more or less, to the point of beginning.

EXCEPT from said parcels 1 to 6 inclusive, all oil, gas minerals and other hydrocarbon substances lying in and under said land without, however, the right to enter upon the surface of said land, or the top 500 feet of the subsurface thereof, as quitclaimed to Raven Construction Company, Inc., a Corporation, as to an undivided 49.9 per cent interest by deed recorded August 12, 1965 as Instrument No. 812 in Book D-3013 Page 30 Official Records, and Quitclaimed to Greenwood Sales Co., a Corporation, as to an undivided 50.1 per cent interest by deed recorded August 12, 1965 as Instrument No. 813 in Book D-3013 Page 88, Official Records.

SUGGESTED SAMPLES OF DOCUMENTS FOR TRANSFERRING WATER RIGHTS

YEARLY ASSIGNMENTS

WATER USE LICENSE AGREEMENT

JOHN DOE hereby grants to BILL SMITH: a license to extract _____ acre-feet of licensor's Restricted Pumping allocated to licensor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing October 1, 19__ and continuing to and including September 30, 19__.

Said License is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of JOHN DOE during the period above specified and put the same to beneficial use and licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this license and provide the Watermaster with a copy of the document.

(3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this license.

JOHN DOE warrants that he has _____ acre-feet of Restricted Pumping and that he has not pumped and will not pump or permit or license any other person to pump any part of said _____ acre-feet during period of October 1, 19__ through September 30, 19__.

DATED: _____

JOHN DOE — BILL SMITH

By _____ — By _____

Title _____ — Title _____

(NOTARY)

PERMANENT TRANSFERS

DEED OF WATER RIGHTS

For a valuable consideration, BILL SMITH hereby sells and transfers to the JOHN DOE COMPANY:

The Right to extract _____ acre-feet of grantor's Mutually Prescriptive Right (_____ acre-feet of Restricted Pumping) allocated to grantor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants".

DATED: _____

JOHN DOE COMPANY — BILL SMITH

By _____ — By _____

Title _____ — Title _____

(NOTARY)

APPENDIX B

GROUND WATER EXTRACTIONS

TABLE B-1. GROUND WATER EXTRACTIONS
(in acre-feet)

STATE WELL NUMBER	OWNER OF WELL NATION	PRODUCTION 1974 OCT	NOV	DEC	1975 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
SAN FERNANDO BASIN														
HUNTINGTON, CITY OF														
1N/14W-14A03S	1A	219.14	172.93	[illegible]	170.58	306.20	339.34	154.60	159.22	76.75	323.88	311.43	288.20	2652.12
1N/14W-14A05S	17	[illegible]	[illegible]	87.61	0	140.33	0	0	0	0	130.65	197.05	191.57	747.21
1N/14W-14A01	4	0	0	0	0	0	0	0	114.16	5.69	111.60	0	0	231.45
1N/14W-14A02S	12	135.11	137.48	67.32	0	0	49.74	139.60	230.02	131.55	223.52	216.40	205.82	1526.56
1N/14W-14A03S	4	0	18.57	51.49	0	0	0	109.71	0	0	0	109.61	95.19	384.57
1N/14W-14A05S	114	0	0	0	0	0	0	0	0	0	0	221.40	0	221.40
1N/14W-14A01S	1-5	46.57	0	0	0	73.92	145.37	0	0	120.55	210.48	208.13	134.82	940.04
1N/14W-14A05S	113	218.40	0	27.10	117.45	215.67	122.28	224.55	155.20	239.24	224.55	0	188.61	1726.45
1N/14W-14A02S	14	227.53	140.01	71.67	35.20	114.05	202.53	166.36	84.80	190.39	237.03	234.50	222.13	1984.79
1N/14W-14A02S	19	5.45	0	62.69	0	0	17.64	116.37	237.17	182.60	217.32	209.74	175.53	1214.91
1N/14W-14A01S	4	293.39	147.84	169.33	152.75	102.02	48.39	187.33	147.72	272.34	288.96	294.33	271.56	2443.64
1N/14W-14A01S	7	.34*	0	25.11*	0	0	0	0	8.69*	0	86.90*	86.69*	33.47*	239.20
1N/14W-14A01S	15	.78	0	33.29	0	0	0	0	12.30	0	120.82	121.56	45.18	334.63
TOTALS		1187.86	736.83	594.71	515.98	972.19	945.29	1096.32	1159.37	1209.61	2175.89	2210.86	1652.08	14636.97
CONDON, CO.														
2N/14W-10A01S	4926	22.20	14.19	16.53	18.04	12.31	11.84	9.58	14.52	13.11	7.38	15.35	12.24	167.28
2N/14W-10A03S	2	77.48	69.33	57.73	74.33	41.50	41.42	46.49	87.48	68.72	99.61	68.57	81.00	833.16
2N/14W-10A05	3	79.66	72.10	59.91	82.80	48.96	48.93	67.33	86.01	69.53	101.74	67.56	80.76	865.03
TOTALS		179.34	155.61	134.17	175.17	102.71	102.19	143.40	188.01	151.36	208.73	151.48	174.00	1865.47
FOREST LAWN CEMETERY ASSN. ET AL														
1N/13W-13A01S	2	0*	0	0	0	0	0	3.87	23.28	19.40	23.49	20.54	23.09	113.67
1N/13W-13A03S	4	18.64	19.87	12.21	21.62	12.78	9.99	7.95	0	0	23.92	18.45	17.52	162.95
TOTALS		18.64	19.87	12.21	21.62	12.78	9.99	11.82	23.28	19.40	47.41	38.99	40.61	276.62
GLENDALE, CITY OF														
1N/13W-14J01S	STPT1	3.31	.87	.29	2.85	1.36	13.85	0	0	37.63	34.76	.39	11.50	106.81
1N/13W-14J02S	STPT2	89.57	104.33	112.20	121.03	93.20	63.61	85.24	65.79	8.12	45.67	139.00	102.94	1030.70
	EVENT	1280.65	874.33	589.84	596.28	565.60	650.91	696.33	1363.56	1409.54	2108.63	1976.06	669.20	12760.93
TOTALS		1373.53	979.53	702.33	720.16	660.16	728.37	781.57	1429.35	1455.29	2189.06	2115.45	783.64	13898.44
HANFORD, CECILIA DE MILLE														
2N/14W-15A02S	CEMETS	.03*	.04*	.07*	.07*	.06*	.05*	.05*	.11*	.13*	.19*	.26*	0	1.12
LIVINGSTON-GRAHAM, INC.														
2N/14W-14A01S	SNVAL	51.56	48.35	33.72	43.30	38.01	32.75	42.75	45.58	45.80	53.45	46.57	54.84	536.71
LOS ANGELES, CITY OF (PRESEDA) **														
1N/16W-03A04S	9-10	0	0	.02	0	0	0	0	0	0	0	0	0	.02
1N/16W-03A01S	9-2	.23	.28	.02	0	0	0	0	0	0	0	0	0	.53
2N/16W-27B02S	9-8	.11	.11	.02	0	0	0	0	0	0	0	0	0	.24
2N/16W-27B02S	9-6	.07	0	.02	0	0	0	0	0	0	0	0	0	.09
2N/16W-34A02S	9-9	.09	0	.05	0	0	0	0	0	0	0	0	0	.14
2N/16W-34A03S	9-5	.23	0	.02	0	0	0	0	0	0	0	0	0	.25
TOTALS		.73	.39	.15	0	0	0	0	0	0	0	0	0	1.27
LOS ANGELES, CITY OF														
1N/14W-05R01S	NM-14	0	.16	0	0	0	10.67	0	0	0	219.93	326.91	316.35	874.02
1N/14W-05R01S	NM-14	0	.11	0	0	0	0	0	0	98.48	386.53	376.49	49.05	908.67
1N/14W-05R02S	NM-17	0	.21	0	0	0	10.48	0	0	0	1.03	0	163.45	175.57
1N/14W-06R01S	NM-32	51.12	.18	0	0	0	0	0	0	0	496.26	486.69	472.68	1504.93
1N/14W-06R02S	NM-40	29.84	.30	0	0	0	15.08	168.27	468.97	120.25	0	0	0	782.71
1N/14W-06R03S	NM-41	0	15.56	0	0	0	16.30	0	0	0	0	0	15.38	47.24
1N/14W-06R04S	NM-42	210.06	.29	0	0	0	0	0	0	60.19	0	0	0	270.53
1N/14W-06L01S	NM-24	0	34.21	0	0	0	12.47	0	0	141.18	0	0	274.79	462.65
1N/14W-06N01S	NM-2	23.16	74.43	0	0	0	10.79	0	0	0	312.40	147.44	211.29	820.01
1N/14W-06N02S	NM-30	0	.14	0	0	0	12.26	0	0	0	222.45	199.72	170.98	605.55
1N/14W-06N01S	NM-5	10.17	0	0	0	0	23.14	0	0	0	137.28	120.68	49.40	340.65
1N/14W-07N02S	NM-31	17.33	169.81	0	0	0	71.74	66.12	0	0	241.57	221.05	85.79	895.41
1N/14W-06N01S	NM-13	0	.11	0	0	0	44.54	39.19	0	1.18	147.13	210.04	184.12	626.51
1N/14W-06N02S	NM14A	0	.14	0	0	0	63.25	60.51	0	0	193.30	284.44	239.21	840.85
1N/14W-06L05S	NM-29	0	.21	0	0	0	11.62	0	0	0	345.04	283.08	0	639.95
1N/14W-06N07S	NM-18	0	15.12	0	0	0	35.28	0	0	0	346.81	509.18	67.10	991.49
1N/14W-06R01S	NM-11	0	.18	0	0	0	0	0	81.27	0	0	0	182.74	264.19
1N/14W-06R05S	NM-27	22.82	.05	0	0	0	7.05	0	72.54	0	0	81.04	27.71	211.21
1N/14W-06R07S	NM-28	.2	0	0	0	0	0	0	0	0	0	0	0	.23
2N/14W-07A01S	9-1	22.70	188.68	279.38	153.43	0	0	0	0	45.04	229.57	316.35	202.73	1437.88
2N/14W-07J01S	E-16	38.84	[illegible]	.11	180.21	210.06	52.00	0	0	0	0	86.78	211.20	779.20

TABLE B-1. GROUND WATER EXTRACTIONS (Continued)
(in acre-feet)

STATE WELL NUMBER	OWNERS DESIGNATION	PRODUCTION 1974 OCT	NOV	DEC	1975 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
LOS ANGELES, CITY OF (CONTINUED)														
1N/14W-07J03S	E-6	39.46	.09	6.86	161.39	207.07	32.09	0	9.30	0	0	84.94	193.16	734.36
1N/14W-08A01S	NH-21	0	.14	0	0	0	9.69	0	0	0	155.88	265.84	231.43	662.98
1N/14W-08A02S	NH-20	0	.18	0	0	0	9.32	0	0	0	0	0	0	9.50
1N/14W-08A03S	NH-35	0	.05	0	0	0	6.96	0	0	0	118.92	202.94	170.80	499.67
1N/14W-08A01S	NH-19	0	.07	0	0	0	11.50	0	10.79	210.74	332.87	311.07	195.80	1072.84
1N/14W-08G01S	W-2	34.11	313.36	125.85	155.79	0	0	0	101.95	0	238.75	333.33	233.63	1536.77
1N/14W-08E01S	W-3	28.74	163.45	51.17	171.17	40.17	0	0	49.13	136.91	294.77	279.38	243.30	1458.19
1N/14W-08F01S	W-4	24.43	0	0	158.86	42.93	117.08	0	126.26	209.96	216.14	0	0	895.66
1N/14W-08J01S	F-5	34.16	148.99	137.51	279.66	87.01	101.74	22.50	289.69	0	98.26	334.02	316.02	1849.56
1N/14W-08J03S	F-3	86.94	32.78	24.06	154.94	65.66	35.84	0	0	41.78	251.38	241.74	213.45	1148.57
1N/14W-08J04S	F-1	62.30	32.90	178.60	213.82	81.50	107.21	0	58.54	61.66	241.28	224.06	191.67	1453.54
1N/14W-08L01S	W-5	24.04	89.94	25.85	195.13	45.59	0	0	0	0	0	123.97	316.12	820.64
1N/14W-08L02S	F-4	83.86	67.19	162.12	215.36	76.68	61.48	15.84	276.86	150.34	255.05	255.51	103.88	1724.17
1N/14W-08M01S	W-7	8.03	143.60	247.70	238.98	92.68	101.01	0	0	0	6.66	88.15	22.66	949.47
1N/14W-15N01S	V-2	42.33	31.77	121.01	168.34	70.22	239.44	140.43	91.00	109.96	171.95	169.88	163.22	1519.55
1N/14W-15P01S	V-4	43.76	114.05	232.32	166.07	68.55	237.83	225.21	227.96	130.72	214.88	207.76	198.58	2067.69
1N/14W-16A01S	W-9	26.97	18.50	0	72.08	57.87	58.54	0	0	0	0	33.06	13.20	280.22
1N/14W-16F01S	W-10	26.49	77.36	44.58	79.20	8.47	0	17.22	0	0	0	21.07	0	274.39
1N/14W-17A01S	W-8	24.33	339.30	13.80	182.51	44.79	0	0	51.65	126.03	77.59	229.02	0	1089.02
1N/14W-19F03S	CS-46	220.62	242.31	259.99	304.87	264.69	0	0	168.16	287.30	285.81	268.60	260.33	2562.68
1N/14W-21B01S	V-13	0	92.29	81.50	53.72	52.57	0	0	0	.34	0	0	0	280.42
1N/14W-21C01S	V-16	17.24	0	0	0	0	0	0	0	157.74	172.18	167.36	160.47	674.99
1N/14W-21G01S	V-24	146.21	131.08	235.88	210.06	148.00	0	0	0	141.41	240.13	235.88	224.75	1712.60
1N/14W-22B01S	V-11	175.90	164.37	236.66	276.29	172.87	36.27	270.66	279.16	267.45	265.96	271.58	256.43	2673.60
1N/15W-19F02S	CS-45	.80	0	0	0	0	0	0	0	0	0	0	0	.80
1N/14W-24D03S	H-26	188.25	187.56	209.71	221.42	181.59	192.26	180.21	183.54	171.49	144.37	156.11	151.06	2187.57
1N/14W-24D04S	H-27	89.12	77.55	223.37	245.06	164.37	158.98	169.54	172.98	165.86	167.13	173.90	170.34	1978.20
1N/14W-24D05S	H-28	437.44	448.92	349.86	131.66	400.94	438.36	421.49	434.34	417.36	426.31	290.96	274.47	4472.11
1N/14W-24D06S	H-29	287.53	106.52	0	0	311.75	438.93	420.68	431.47	412.19	413.91	414.03	389.69	3626.70
1N/14W-24E06S	H-25	168.96	167.13	188.02	194.56	167.01	178.60	166.78	170.68	159.44	154.61	150.60	148.53	2014.92
1N/14W-24H03S	CS-52	0*	0*	9.80*	4.49*	1.40*	2.57*	3.06*	4.04*	6.43*	5.23*	4.45*	3.46*	44.93
1N/15W-01K01S	NH-15	9.55	.11	0	0	0	27.39*	0	0	0	29.94	0	0	66.99
1N/15W-01K02S	NH-34	59.83	.11	0	0	0	10.63	0	0	0	0	0	240.82	311.39
1N/15W-01K04S	NH-36	0	.28	0	0	0	14.49	17.13	0	72.08	449.72	448.12	345.00	1346.82
1N/15W-01K05S	NH-37	0	.37	0	0	0	14.97	206.61	211.48	0	230.72	452.02	173.90	1290.07
1N/15W-01D02S	NH-22	0	145.39	0	0	0	0	0	0	0	0	50.05	311.98	507.42
1N/15W-01D03S	NH-23	0	.09	0	0	0	0	0	0	0	0	0	176.31	176.40
1N/15W-01G04S	NH-26	0	.21	0	0	0	0	0	0	0	0	0	0	.21
1N/15W-02D01S	NH-7	0	43.60	0	0	0	7.42	0	0	0	0	0	0	51.02
1N/15W-02D02S	NH-32	0	.14	0	0	0	11.16	0	0	60.26	132.76	28.47	130.14	362.93
1N/15W-02M01S	NH-4	0	.09	0	0	0	18.41	0	0	23.42	78.19	0	0	120.11
1N/15W-02M02S	NH-33	0	.11	0	0	0	28.35	0	0	0	0	0	230.26	258.72
1S/13W-04K01S	P-7	96.30	34.09	0	0	0	1.49	0	0	0	0	0	0	131.88
1S/13W-04L02S	P-4	217.63	198.46	204.32	195.36	187.44	210.86	201.79	218.20	203.05	197.77	185.72	167.81	2388.41
1S/13W-04L03S	P-6	172.41	166.78	175.62	167.81	0	0	0	0	95.27	208.33	200.41	192.72	1379.35
1S/13W-04L04S	P-5	208.22	198.92	204.32	197.77	178.37	197.31	190.08	194.67	132.00	177.69	168.39	160.35	2208.09
2N/14W-12C01S	TGPLT	100.16	79.57	79.48	74.15	65.11	75.57	77.66	77.13	76.12	77.62	77.00	74.40	933.97
2N/14W-13D05S	LNGNR	0	.05	0	0	0	0	0	0	0	0	0	0	.05
2N/14W-13E02S	ARNHO	0	.05	0	0	0	0	0	0	0	0	0	0	.05
2N/14W-13E03S	FTHL3	0	.05	0	0	0	0	0	0	0	0	0	0	.05
2N/14W-13E04S	FTHL2	0	.05	0	0	0	0	0	0	0	0	0	0	.05
2N/14W-14A01S	FNWK1	0	.05	0	0	0	0	0	0	0	0	0	0	.05
TOTALS:		3612.16	4579.93	4109.43	5224.36	3495.36	3590.82	3078.98	4439.76	4493.83	9886.56	10838.48	9968.12	67317.79
MENA, JOHN AND BARBARA														
2N/14W-11N01S	4973J	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.96
RIVERWOOD RANCH MUTUAL WATER COMPANY														
2N/14W-11A01S	4982	1.84	1.84	1.86	1.88	1.84	1.75	1.73	0	0	0	0	0	12.74
SEARS ROEBUCK AND COMPANY														
1N/13W-20R01S	3945-	30.28*	5.82*	5.20*	5.07*	1.79*	2.30*	0	21.00*	18.09*	36.28*	27.47*	38.26*	191.56
SOUTHERN SERVICE COMPANY														
1N/13W-20F01S	METR1	1.47	.99	1.44	1.34	1.19	1.22	1.26	1.30	1.21	1.25	1.15	1.36	15.18
1N/13W-20F01S	METR2	1.47	1.24	1.31	1.26	1.12	1.16	1.20	1.20	1.16	1.12	1.06	1.25	14.55
1N/13W-20F01S	METR3	2.23	1.84	2.06	1.62	1.52	1.56	1.69	1.57	1.41	1.73	1.53	1.60	20.36
TOTALS:		5.17	4.07	4.81	4.22	3.83	3.94	4.15	4.07	3.78	4.10	3.74	4.21	50.09
SPORTSMENS LODGE, INCORPORATED														
1N/15W-25D01S	1	.28*	.28*	.29	.45	.96	.62	1.13	1.73	.63	1.08	.72	1.97	10.14
TOLUCA LAKE PROPERTY OWNERS ASSN														
1N/14W-28A01S	3845F	4.37	0	0	5.33	2.45	3.10	2.00*	1.15*	1.50	2.02	4.73	1.08	27.73

TABLE B-1. GROUND WATER EXTRACTIONS (Continued)
(in acre-feet)

STATE WELL NUMBER	OWNERS DESIGNATION	PRODUCTION 1974 OCT	NOV	DEC	1975 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
VALHALLA MEMORIAL PARK														
1N/14W-04N03S	4	17.33	15.04	7.76	1.42	0	0	10.13	35.27	20.60	57.67	55.75	23.72	244.69
1N/14W-09N06S	2	.55	.35	1.24	.27	0	.39	.34	.20	0	0	0	0	3.34
TOTALS:		17.88	15.39	9.00	1.69	0	.39	10.47	35.47	20.60	57.67	55.75	23.72	248.03
VAN DE KAMPS HOLLAND DUTCH BAKERS, INC														
2N/14W-11A01S	4982	0	0	0	0	0	0	0	1.66	0	0	0	0	1.66
1S/13W-04G01S	1	.04	.03	.02	0	0	0	0	0	0	0	0	0	.09
TOTALS:		.04	.03	.02	0	0	0	0	1.66	0	0	0	0	1.75
WALT DISNEY PRODUCTIONS														
1N/14W-23E01S	EAST	70.44	44.58	92.60	13.24	68.29	0	93.48	0	92.82	9.18	132.78	10.95	628.36
1N/14W-23E02S	WEST	61.85	54.84	13.08	73.55	.10	72.38	10.20	82.31	6.07	149.50	16.69	127.97	668.54
TOTALS:		132.29	99.42	105.68	86.79	68.39	72.38	103.68	82.31	98.89	158.68	149.47	138.92	1296.90
WESTERN OIL AND GAS ASSOCIATION (NONPARTY)														
	COX	4.03*	5.56*	4.89*	2.96*	5.88*	7.23*	6.74*	5.46*	11.72*	11.67*	5.51*	5.40*	77.05
	NEWMAN	24.09	6.61	1.67	.16	0	0	0	0	0	0	0	0	32.53
	SAN F	5.34*	.44*	0*	0	0	0	0	0	0	0	0	0	5.78
EL/LS	F-L	12.57*	12.15*	8.05*	7.45*	6.14*	7.42*	6.28*	4.00*	7.84*	5.31*	5.26*	4.51*	86.98
TOTALS:		46.03	24.76	14.61	10.57	12.02	14.65	13.02	9.46	19.56	16.98	10.77	9.91	202.34
SUBTOTALS SAN FERNANDO BASIN		6642.50	6672.26	5728.34	6816.74	5372.63	5508.67	5290.15	7422.39	7538.55	14838.18	15654.78	13091.44	100576.63
SYLMAR BASIN														
BROWN, CHARLES T														
3N/15W-34K03S	1	1.01*	.62*	.65*	.59*	.18*	.13*	0	.40	1.36*	1.66*	1.69*	1.08*	9.37
FIDELITY FEDERAL SAVINGS + LOAN ASSN.														
3N/15W-25G01S	3	.04*	.03*	.02*	.02*	.03*	0	02	0	0	0	0	0	.16
LOS ANGELES, CITY OF														
2N/15W-04	S MISSN	0	.39	0	0	367.15	409.44	402.13	403.26	378.70	363.50	343.92	324.29	2992.78
METROPOLITAN WATER DISTRICT OF SO CAL (NONPARTY)														
3N/15W-36E	S TUNNL	36.30*	36.46*	31.78*	14.31*	10.27*	13.15*	18.36*	6.20*	10.37*	1.30*	2.06*	2.16*	182.72
SAN FERNANDO, CITY OF														
3N/15W-34C01S	3	25.52	16.71	.01	20.42	.14	.01	165.05	34.64	2.27	32.53	42.60	47.26	387.16
3N/15W-34A01S	4	3.09	1.46	0	9.32	5.11	2.07	3.51	12.83	29.75	55.69	51.88	38.42	213.13
3N/15W-27G01S	7A	45.63	45.67	36.70	17.53	18.37	16.11	26.49	81.30	85.53	82.75	74.10	55.81	585.99
3N/15W-35A02S	2A	172.33	178.14	177.00	180.55	168.22	172.65	17.50	154.20	181.23	186.72	180.50	179.94	1948.98
TOTALS:		246.57	241.98	213.71	227.82	191.84	190.84	212.55	282.97	298.78	357.69	349.08	321.43	3135.26
SUBTOTALS SYLMAR BASIN		283.92	279.48	246.16	242.74	569.47	613.56	633.06	592.83	689.21	724.15	696.75	648.96	6320.29

TABLE B-1. GROUND WATER EXTRACTIONS (Continued)
(in acre-feet)

STATE WELL NUMBER	OWNERS DESIG-NATION	PRODUCTION 1974 OCT	NOV	DEC	1975 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
VERDUGO BASIN														
CRESCENTA VALLEY COUNTY WATER DIST														
1N/13W-03D05S	8	26.17	24.49	20.23	11.16	16.54	5.79	0	11.87	25.39	23.11	26.18	32.30	223.23
2N/13W-28N01S	9	26.41	24.89	20.94	31.67	14.36	29.95	31.41	27.49	23.85	29.87	27.80	27.44	316.10
2N/13W-29F02S	2	5.69	16.66	11.25	13.89	14.23	15.92	16.26	17.09	15.26	16.12	16.08	15.38	173.83
2N/13W-33C01S	7	0	0	0	0	0	0	0	0	0	18.87	28.01	26.52	73.40
2N/13W-33C03S	1	33.16	34.28	30.32	33.37	25.98	36.80	38.47	42.01	42.40	47.41	42.25	40.75	447.18
2N/13W-33C06S	5	36.74	44.12	37.10	52.59	41.98	35.95	40.10	52.71	40.54	40.42	37.56	35.69	495.50
2N/13W-33G01S	11	26.21	23.79	.73	0	0	0	0	0	0	0	0	0	50.73
2N/13W-33R01S	14	22.33	23.87	22.70	19.36	16.73	16.08	16.83	29.79	26.19	27.79	32.13	15.25	269.05
2N/13W-33P03S	6	7.61	2.51	1.29*	2.30	0	11.85	8.34	9.50	9.88	15.61	18.53	21.36	108.78
2N/13W-33W05S	10	18.16	0	34.59	16.28	18.77	13.29	16.82	35.76	14.28	49.70	23.53	47.36	288.54
2N/13W-33R06S	12	39.43	49.60	3.96	19.52	14.11	15.53	11.20	18.21	37.88	4.72	40.41	76.88	331.43
IVFRS-ION	PICK	14.41	13.92	14.26	14.05	13.06	14.50	14.06	15.18	13.60	14.47	14.47	13.94	169.92
IVFRS-ION	OUNS	1.29*	1.63*	1.39*	.41*	0*	0*	0	0	0	0	0	0	4.72
TOTALS:		257.61	259.76	198.76	214.60	175.74	195.66	193.49	259.61	249.27	288.09	306.95	352.87	2952.41
GLENDALE, CITY OF														
1N/13W-10F 5	GL3-4	98.10	128.88	97.11	98.36	35.12	119.17	88.70	139.94	128.67	147.45	142.64	134.37	1358.51
1N/13W-15L015	VPCKP	103.28	101.89	108.76	108.01	95.38	101.52	85.09	101.68	90.63	84.41	81.45	82.40	1144.50
TOTALS:		201.38	230.77	205.87	206.37	130.50	220.69	173.79	241.62	219.30	231.86	224.09	216.77	2503.01
SUBTOTALS VERDUGO BASIN		458.99	490.53	404.63	420.97	306.24	416.35	367.28	501.23	468.57	519.95	531.04	569.64	5455.42
GRAND TOTALS ULARA		7385.41	7442.27	6379.13	7480.45	6248.34	6938.58	6290.49	8616.45	8696.33	16082.28	16882.57	14310.04	112352.34

* ESTIMATED

** EXTRACTIONS NOT CHARGEABLE AGAINST CITY OF LOS ANGELES WATER RIGHT ENTITLEMENT

*** INCLUDES EXTRACTIONS BY NONPARTIES AND CITY OF LOS ANGELES FROM RESEDA WELLS

APPENDIX C

MEAN DAILY DISCHARGE
AT
KEY SURFACE RUNOFF
GAGING STATIONS

MEAN DAILY DISCHARGE OF LOS ANGELES RIVER ABOVE ARROYO SECO
(in second-feet)

Station [illegible]

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	9.2	8.5	7.7	12.8	13.7	17.5	[illegible]	11.0	6.7	20.3	[illegible]	7.4
2	10.4	26.0	9.2	12.5	711.0	16.5	[illegible]	10.4	5.8	13.1	9.6	9.2
3	9.2	5.8	18.0	12.5	2,712.0	20.3	[illegible]	10.4	4.6	12.6	[illegible]	[illegible]
4	9.2	6.7	5,750.0	12.5	575.0	17.5	10.4	8.7	5.0	4.2	8.2	12.4
5	7.7	6.7	149.0	12.0	45.0	987.0	1,130.0	7.7	5.4	9.2	[illegible]	10.4
6	7.2	6.2	28.0	12.0	19.3	4,215.0	575.0	11.0	5.0	9.2	14.3	15.4
7	296.0	7.2	30.0	12.0	13.7	247.0	163.0	11.6	6.7	3.6	[illegible]	18.4
8	117.0	7.7	19.4	12.0	8.3	3,028.0	105.0	8.2	9.2	9.7	[illegible]	21.2
9	26.0	7.2	15.6	11	1,105.0	46.0	759.0	9.2	10.4	[illegible]	[illegible]	25.0
10	14.9	7.2	11.0	[illegible]	196.0	196.0	63.0	11.7	9.2	9.3	[illegible]	19.4
11	18.4	6.7	9.6	[illegible]	34.0	250.0	125.0	9.[illegible]	8.2	9.4	12.8	16.5
12	9.[illegible]	8.2	9.2	11	19.4	47.0	90.0	13.[illegible]	7.7	7.8	11.0	14.3
13	8.7	11.0	8.[illegible]	11.0	[illegible]	40.0	[illegible]	17.5	6.7	7.7	12.0	10.5
14	[illegible].7	8.[illegible]	7.[illegible]	11.	14.[illegible]	30.0	19.4	14.0	12.2	11.7	[illegible]	9.2
15	9.[illegible]	[illegible].7	7.[illegible]	11.0	15.[illegible]	20.0	279.0	14.0	5.0	15.0	12.8	9.2
16	9.[illegible]	8.7	6.7	11.0	15.6	20.0	33.0	16.[illegible]	5.8	8.2	11.6	39.6
17	10.4	9.[illegible]	9.8	10.[illegible]	15.[illegible]	20.0	15.[illegible]	13.[illegible]	9.5	9.2	11.0	29.6
18	12.[illegible]	10.4	9.6	12.4	17.5	20.0	12.[illegible]	11.[illegible]	16.7	13.1	11.0	15.6
19	12.2	11.[illegible]	9.[illegible]	9.[illegible]	19.4	20.0	8.[illegible]	11.6	6.7	23.2	18.1	17.[illegible]
20	[illegible].7	17.[illegible]	10.4	9.8	18.4	18.4	7.[illegible]	59.7	8.7	13.5	18.[illegible]	20.3
21	8.7	17.[illegible]	9.2	9.[illegible]	22.[illegible]	15.4	9.[illegible]	3[illegible].3	39.6	9.9	11.6	19.4
22	[illegible].7	19.4	7.7	9.[illegible]	23.0	750.0	12.8	13.[illegible]	10.4	[illegible]	9.8	19.4
23	8.7	14.2	6.2	9.[illegible]	16.[illegible]	35.0	12.2	10.4	9.[illegible]	7.3	8.2	18.4
24	10.4	8.[illegible]	6.2	9.8	19.4	22.0	9.8	9.2	12.8	[illegible]	7.2	17.5
25	9.8	9.8	5.8	8.[illegible]	21.0	41.0	11.0	6.2	11.6	6.5	[illegible]	14.[illegible]
26	[illegible].7	9.8	6.7	9.[illegible]	19.4	[illegible]	[illegible]	9.8	15.5	5.0	11.0	19.4
27	[illegible]	9.2	9.2	14.3	17.5	17.5	6.7	11.0	17.3	7.7	12.2	13.7
28	[illegible]	8.2	1,880.0	16.5	17.5	18.4	10.4	9.[illegible]	22.2	8.9	11.0	12.4
29	43.0	7.2	366.0	10.5	--	7.7	11.6	11.0	13.5	9.8	10.4	13.7
30	9.4	7.2	22.0	15.[illegible]	--	[illegible]	11.[illegible]	9.8	15.6	10.4	8.7	19.4
31	[illegible].7	--	27.0	31.0	-	10.4	-	8.[illegible]	--	11.6	7.7	--
Total	1,203.8	300.7	8,532.0	375.8	5,877.8	10,774.8	3,345.1	416.9	322.8	315.4	342.3	510.8
Mean Daily Discharge	39.5	10.0	275.2	12.1	209.9	347.6	111.[illegible]	13.4	10.8	10.2	11.0	17.0
Max. Mean Daily Discharge	[illegible]	26.0	5,750.0	31.0	2,712.0	4,215.0	1,130.0	59.7	39.0	23.2	13.1	39.6
Min. Mean Daily Discharge	[illegible]	5.8	5.8	8.7	8.3	7.7	6.7	6.2	4.6	4.2	7.2	7.4
Runoff in Acre-feet	2,[illegible]30.0	596.[illegible]	16,920.0	74[illegible].0	11,658.0	21,372.0	6,635.0	827.0	640.0	626.0	679.0	1,013.0

Maximum Stage [illegible] feet at 03.36 on December 4, 1975 - Discharge 27,570 second-feet Total Acre-feet 1974-75 (64,141)

MEAN DAILY DISCHARGE OF BIG TUJUNGA CREEK BELOW BIG TUJUNGA DAM
(in second-feet)

Station [illegible]

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	37.0	0.1	19.2	0.1	0.1	0.5	85.0	5.7	6.6	5.7	5.7	6.0
2	71.0	0.1	6.7	0.1	0.1	0.5	80.0	5.7	5.7	5.7	5.7	6.0
3	34.0	0.1	0.1	0.1	0.1	0.5	78.0	5.7	5.7	5.7	5.7	6.0
4	45.0	0.1	0.5	0.1	0.1	0.5	78.0	5.7	5.7	5.7	5.7	6.0
5	5[illegible]	0.1	0.1	0.1	0.1	1.0	78.0	5.7	5.7	5.7	6.0	6.0
6	54.0	0.1	0.1	0.1	0.1	3.7	77.0	5.7	5.7	5.7	6.0	6.0
7	55.0	0.1	0.1	0.1	0.1	0.6	20.0	5.7	5.7	6.0	6.0	6.0
8	55.0	0.1	0.1	0.1	0.1	1.6	1.3	6.0	6.0	6.0	6.0	6.0
9	58.0	0.1	0.1	0.1	0.1	0.7	39.0	6.0	6.0	6.0	6.0	6.0
10	6[illegible].0	0.1	0.1	0.1	0.1	0.7	85.0	6.0	6.0	6.0	6.0	6.6
11	61.0	0.0	0.1	0.1	0.1	0.5	85.0	6.0	6.0	6.0	6.0	6.0
12	60.0	0.1	0.1	0.1	0.1	9.5	74.0	6.0	6.0	6.0	6.0	19.[illegible]
13	[illegible]5.0	0.1	0.1	0.1	0.1	0.6	85.0	6.0	6.6	6.0	6.0	26.0
14	[illegible]	0.1	0.1	0.1	0.1	0.6	83.0	6.0	7.2	6.0	6.0	26.0
15	59.0	0.1	0.1	0.1	0.1	0.5	82.0	6.0	7.2	6.0	6.0	24.0
16	54.0	0.1	0.1	0.1	0.1	0.4	80.0	6.0	7.2	6.0	6.0	23.0
17	54.0	0.1	0.1	0.1	0.1	0.4	35.0	6.0	7.8	6.0	6.0	22.0
18	54.0	0.1	0.1	0.1	0.1	0.3	6.0	6.0	7.2	6.0	6.0	24.0
19	52.0	0.1	0.1	0.1	0.1	0.3	6.0	6.0	5.7	6.0	6.0	22.0
20	5[illegible].0	0.1	0.1	0.1	0.2	0.3	6.0	6.0	5.4	5.7	6.0	22.0
21	[illegible]	13.9	0.1	0.1	0.2	0.2	5.7	6.0	5.7	5.7	6.0	22.0
22	5[illegible]	24.0	0.1	0.1	0.2	0.3	5.7	6.0	5.7	5.7	6.0	22.0
23	[illegible]	24.0	0.1	0.1	0.3	0.3	5.7	6.0	5.7	5.7	6.0	22.0
24	[illegible]	24.0	0.1	0.1	0.3	0.3	5.7	6.0	5.7	5.7	6.0	20.9
25	4[illegible]	24.0	0.1	0.1	0.3	0.3	5.7	6.6	5.7	5.7	6.0	20.0
26	[illegible]	23.0	0.1	0.1	0.4	[illegible]	5.7	6.6	5.7	5.7	6.0	20.0
27	[illegible]	3.0	0.1	0.1	0.5	0.3	5.7	7.[illegible]	5.7	5.7	6.0	20.0
28	[illegible]	23.0	0.2	0.1	0.5	0.3	5.7	6.6	5.7	5.7	6.0	20.0
29	[illegible]	22.0	0.1	0.1	--	0.3	5.7	6.6	5.7	5.7	6.0	19.[illegible]
30	[illegible]	20.0	0.1	0.1	--	0.3	5.7	6.6	5.7	5.7	6.6	18.0
31	[illegible]	--	0.1	0.1	--	55.0	--	6.6		5.7	6.6	--
Total	1,459.[illegible]	222.9	29.3	3.2	4.8	7[illegible].7	1,234.[illegible]	188.7	182.1	180.6	186.[illegible]	480.[illegible]
Mean Daily Discharge	47.[illegible]	7.4	0.9	0.1	0.2	2.4	41.[illegible]	6.1	6.1	5.8	6.0	16.0
Max. Mean Daily Discharge	[illegible]	24.0	19.[illegible]	0.1	0.[illegible]	5[illegible].0	85.0	[illegible]	7.8	[illegible]	[illegible]	26.0
Min. Mean Daily Discharge	0.1	0.1	0.1	[illegible]	0.1	0.3	[illegible].3	[illegible]	[illegible].4	7	[illegible]	6.[illegible]
Runoff in Acre-ft.	[illegible]	44[illegible].0	58.[illegible]	[illegible]	9.[illegible]	144	[illegible],460.0	374.[illegible]	[illegible]	[illegible]	369.	953.0

Maximum Stage [illegible] feet at 11:30 on April 1, 1[illegible] - Discharge 24[illegible] second-feet Total Acre-feet 1974-75 (8,425)

MEAN DAILY DISCHARGE OF VERDUGO WASH AT ESTELLE AVENUE
(in second-feet)

Station F 5[illegible]

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	2.3	25.0	1.5	2.3	2.0	2.0	2.0	1.0	1.8	2.3	1.8	1.2
2	2.5	2.3	1.5	2.8	19.0	2.0	1.5	1.0	1.8	2.3	2.0	1.2
3	2.8	1.8	36.0	2.8	195.0	2.0	1.5	1.2	1.8	2.3	1.8	1.2
4	1.9	1.5	373.0	2.3	25.0	2.5	1.5	1.2	1.8	2.3	1.8	1.5
5	2.8	1.5	3.9	2.3	3.7	199.0	69.0	1.0	2.0	2.5	2.0	1.2
6	2.8	1.5	2.0	2.5	2.0	297.0	41.0	1.0	2.0	2.3	2.0	1.2
7	44.0	1.2	2.0	2.5	2.0	46.0	2.8	1.0	2.0	2.3	1.8	1.2
8	2.0	1.2	2.0	2.8	2.5	197.0	7.9	1.0	2.0	2.5	1.5	1.2
9	2.0	1.5	2.3	2.3	104.0	6.2	25.0	1.2	2.0	2.3	1.5	1.2
10	1.5	1.2	2.3	2.3	47.0	32.0	14.7	1.2	2.0	2.3	1.5	1.2
11	1.8	1.2	2.3	2.3	[illegible]	2.3	2.3	1.2	2.0	2.3	1.2	1.2
12	1.5	1.2	2.3	2.0	2.3	1.8	2.0	1.2	2.0	2.3	1.5	1.5
13	1.5	1.2	2.3	2.0	2.8	20.0	2.0	1.2	2.0	2.3	1.2	1.2
14	1.5	1.2	2.0	2.0	2.5	17.1	2.0	1.2	2.0	2.3	1.2	1.2
15	1.8	1.5	2.0	2.0	2.3	2.8	30.0	1.2	2.0	2.0	1.2	1.2
16	1.5	1.5	2.0	1.8	2.3	2.5	2.8	1.5	2.3	2.3	1.2	1.2
17	1.8	1.5	2.0	1.5	2.0	2.3	2.8	1.5	2.3	1.5	1.2	1.8
18	1.8	1.5	2.0	1.8	2.0	2.0	2.5	1.5	1.9	1.2	1.2	1.5
19	1.8	1.5	2.0	2.0	2.0	2.3	[illegible]	1.8	2.0	1.2	1.2	1.8
20	1.5	1.5	2.0	2.0	2.0	2.3	1.[illegible]	6.2	2.3	1.2	1.2	1.8
21	1.5	1.8	2.0	2.3	15.7	2.0	2.0	2.5	2.3	1.5	1.2	1.8
22	1.5	1.8	2.0	2.0	3.3	69.0	1.5	2.5	2.3	1.5	1.2	1.2
23	1.5	1.5	2.0	2.3	2.8	2.0	1.2	2.3	2.3	1.5	1.2	1.2
24	1.5	1.5	2.0	2.0	2.8	2.0	1.0	2.3	2.3	1.8	1.2	1.5
25	1.5	1.2	2.0	2.3	2.3	7.2	1.2	2.3	2.0	1.8	1.2	1.2
26	1.8	1.5	2.0	2.3	2.0	2.3	0.7	2.3	2.0	1.5	1.2	1.2
27	1.5	1.5	2.0	9.9	1.8	2.0	1.0	2.3	2.3	1.8	1.2	1.0
28	38.0	1.5	122.0	1.8	1.8	2.0	1.0	2.5	2.3	1.8	1.2	0.7
29	2.0	1.5	9.5	1.5	--	2.0	1.0	2.3	2.3	1.5	1.2	0.7
30	1.5	1.5	2.8	3.7	--	2.0	1.0	2.3	2.3	1.5	1.2	0.7
31	1.5	--	2.3	1.8	--	2.3	--	2.0	--	1.5	1.2	--
Total	137.2	67.5	598.0	76.2	507.2	935.9	228.7	54.9	64.4	60.0	43.2	37.9
Mean Daily Discharge	4.4	2.2	19.3	2.5	18.1	30.2	7.6	1.8	2.2	1.9	1.4	1.3
Maximum Mean Daily Discharge	44.0	25.0	373.0	9.9	195.0	297.0	69.0	6.2	3.9	2.5	2.0	1.8
Runoff, in Acre-feet	272.0	134.0	1,190.0	151.0	1,010.0	1,860.0	454.0	109.0	128.0	119.0	86.0	75.0

Maximum stage 2.4 feet at 03:24 on December 4, 1974 - Discharge 3,390 second-feet. Total Acre-feet 1974-75 (5,508)

MEAN DAILY DISCHARGE OF LOS ANGELES RIVER AT TUJUNGA AVENUE
(in second-feet)

Station F 400 [illegible]

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	10.4	6.6	6.8	8.8	9.0	8.5	11.6	11.6	10.9	12.2	10.2	10.9
2	9.3	6.1	7.4	9.3	279.0	9.0	15.7	12.0	10.4	12.0	10.2	11.1
3	7.9	6.3	262.0	10.0	1,290.0	8.5	11.1	13.4	11.1	11.3	10.4	9.7
4	9.0	6.6	3,570.0	10.6	362.0	6.0	11.3	11.6	11.3	10.2	10.4	10.7
5	8.0	6.3	43.0	8.9	18.5	937.0	807.0	10.0	13.2	10.0	12.0	10.7
6	8.7	6.4	13.2	9.7	8.0	2,090.0	181.0	10.4	11.8	9.7	11.8	10.7
7	194.0	6.6	17.4	10.2	6.8	265.0	100.0	11.1	12.0	9.5	11.6	10.7
8	30.0	7.4	10.2	10.0	6.4	1,840.0	107.0	11.3	14.9	9.5	11.6	13.2
9	9.1	6.6	7.2	8.0	731.0	92.0	477.0	11.6	14.2	9.5	11.1	10.7
10	7.4	7.2	7.4	7.6	141.0	506.0	24.0	12.2	15.7	9.5	11.1	11.1
11	7.2	8.0	7.8	8.2	17.4	84.0	119.0	13.4	15.2	10.0	9.7	9.1
12	7.2	8.0	9.1	7.4	16.9	21.0	33.0	12.2	13.9	12.0	8.9	9.3
13	7.7	7.2	8.7	6.8	13.2	68.0	144.0	12.7	15.2	12.0	10.7	8.7
14	7.7	7.8	6.1	9.3	16.9	84.0	12.7	13.2	13.4	14.2	9.3	7.8
15	8.4	7.2	5.9	9.7	10.6	13.9	118.0	14.6	13.4	12.8	9.5	8.0
16	11.6	10.0	7.2	8.9	10.9	37.0	15.5	11.6	11.8	11.3	10.2	38.4
17	10.4	8.2	7.6	10.2	9.3	12.7	13.9	12.0	13.9	10.9	8.7	8.7
18	10.4	7.6	6.8	9.3	9.7	12.2	18.0	12.0	15.2	10.0	11.6	8.2
19	8.2	9.6	6.1	9.3	10.6	12.0	13.9	11.8	13.9	9.9	10.4	9.7
20	7.8	8.8	11.8	8.2	10.9	12.7	13.2	21.0	12.7	10.2	11.1	9.3
21	7.7	9.3	10.0	8.0	9.7	13.2	16.4	12.0	41.0	10.2	10.4	9.7
22	7.7	11.4	10.9	7.0	9.1	444.0	13.7	10.4	10.9	11.3	11.8	8.7
23	7.7	7.2	15.2	5.9	10.2	14.7	12.0	11.6	11.4	12.5	9.1	9.7
24	7.7	6.8	6.3	7.2	10.6	14.7	12.2	11.8	11.3	12.3	10.2	10.2
25	7.2	7.0	6.6	9.1	10.0	16.9	14.2	11.8	11.1	11.6	10.0	10.4
26	7.2	6.8	6.8	8.2	9.7	12.0	10.0	10.6	11.6	10.7	9.5	8.9
27	7.2	6.7	8.9	9.2	8.7	13.4	10.6	12.0	14.2	10.7	9.7	8.7
28	117.0	7.0	1,250.0	6.1	9.0	10.4	12.2	10.6	11.8	10.0	9.1	9.1
29	11.0	8.2	124.0	6.4	--	10.0	12.5	11.8	10.4	9.7	10.2	9.5
30	7.4	7.4	15.7	1.[illegible]	-	10.4	12.2	11.1	13.0	9.7	10.4	11.3
31	7.0	--	8.2	9.0	-	12.5	--	11.1	-	9.7	10.7	--
Total	482.7	228.0	5,484.8	271.9	3,451.1	7,499.7	2,251.3	374.4	411.4	335.1	322.1	322.8
Mean Daily Discharge	15.6	7.6	176.9	8.8	119.7	241.9	75.0	12.1	13.7	10.8	10.4	10.8
Maximum Daily Discharge	117.0	11.4	3,570.0	15.5	1,290.0	2,090.0	807.0	21.0	41.0	14.2	12.0	38.4
Minimum Daily Discharge	6.4	6.1	5.9	5.0	5.0	8.0	10.0	10.0	10.4	9.5	8.7	7.8
Runoff, in Acre-feet	1,550.0	452.0	10,880.0	539.0	6,850.0	13,290.0	4,460.0	743.0	816.0	665.0	639.0	640.0

Maximum stage 9.21 feet at 04:12 on December 4, 1974 - Discharge 14,740 second-feet. Total Acre-feet 1974-75 (41,314)

MEAN DAILY DISCHARGE OF PACOIMA CREEK FLUME BELOW PACOIMA DAM

(in second-feet)

Station 11-[illegible]

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	0.1	0.1	0.1	0.1	0.1	0.1	8.1	8.0	0.1	0.1	0.1	0.6
2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	8.0	0.1	0.1	0.1	2.6
3	0.1	0.1	0.1	0.1	0.1	4.4	0.1	8.4	0.1	0.1	0.1	0.6
4	0.1	0.1	24.0	0.1	0.1	10.0	0.1	7.7	0.1	0.1	0.1	0.6
5	0.1	0.1	7.2	9.1	0.1	7.0	0.1	7.7	0.1	0.1	0.1	2.1
6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	7.7	0.1	0.1	0.1	0.6
7	0.1	0.1	0.1	0.1	0.1	28.0	6.0	7.7	0.1	0.1	0.1	0.6
8	0.1	0.1	0.1	0.1	0.1	41.1	10.4	7.7	0.1	0.1	0.1	0.6
9	0.1	0.1	0.1	0.1	0.1	44.0	10.4	6.4	0.1	0.1	0.1	0.6
10	0.1	0.1	0.1	0.1	0.1	38.0	9.1	5.4	0.1	0.1	0.1	2.9
11	.1	0.1	0.1	0.1	0.1	37.0	14.1	5.4	0.1	0.1	0.1	0.6
12	.1	0.1	2.5	0.1	0.1	26.0	18.8	5.4	0.1	0.1	0.1	0.6
13	0.1	0.1	0.5	0.1	0.1	7.3	18.8	4.2	0.1	0.1	0.1	0.6
14	0.1	0.1	0.1	0.1	0.1	10.0	38.0	1.6	0.1	0.1	9.2	0.6
15	.1	0.1	0.1	0.1	0.1	16.0	66.0	0.1	0.1	0.1	22.0	2.6
16	0.1	0.1	0.1	0.1	0.1	16.0	40.0	0.1	0.1	0.1	24.0	0.6
17	0.1	0.1	0.1	0.1	0.1	16.0	17.7	0.1	0.1	0.1	22.0	0.6
18	0.1	0.1	0.1	0.1	0.1	12.1	12.0	0.1	0.1	0.1	49.0	0.6
19	0.1	0.1	0.1	0.1	0.1	7.7	12.0	1.7	0.1	0.1	83.0	2.9
20	0.1	0.1	0.1	0.1	0.1	7.7	12.0	4.0	0.1	0.1	2.0	0.6
21	0.1	0.1	0.1	0.1	0.1	7.7	12.0	4.0	0.1	0.1	1.0	0.6
22	0.1	0.1	0.1	0.1	0.1	7.7	12.0	4.2	0.1	0.1	4.8	0.6
23	0.1	0.1	0.1	0.1	0.1	7.7	12.0	4.2	0.1	0.1	0.7	0.6
24	0.1	0.1	0.1	0.1	0.1	9.0	10.8	4.2	0.1	0.1	0.7	0.6
25	0.1	0.1	0.1	0.1	0.1	10.4	9.8	4.2	0.1	0.1	0.7	0.6
26	0.1	0.1	0.1	0.1	0.1	9.9	9.8	4.2	0.1	0.1	0.7	0.6
27	0.1	0.1	0.1	0.1	0.1	9.9	9.8	4.2	0.1	0.1	0.7	0.6
28	0.1	0.1	0.1	0.1	0.1	9.9	9.0	4.2	0.1	0.1	0.6	0.6
29	0.1	0.1	0.1	0.1	--	9.9	7.8	4.2	0.1	0.1	0.6	1.5
30	0.1	0.1	0.1	0.1	--	9.9	7.8	1.9	0.1	0.1	1.5	0.6
31	0.1	--	0.1	0.1	--	9.5	--	0.1	--	0.1	0.6	--
Total	3.1	3.0	37.0	3.1	2.8	430.1	394.7	137.0	3.0	3.1	225.1	50.0
Mean Daily Discharge	0.1	0.1	1.2	0.1	0.1	13.9	13.2	4.4	0.1	0.1	7.3	1.0
Max. Mean Daily Discharge	0.1	0.1	24.2	0.1	0.1	44.0	66.0	8.4	0.1	0.1	83.0	2.9
Min. Mean Daily Discharge	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.6
Runoff, in Acre-feet	6.1	6.0	73.4	6.1	5.6	853.0	782.9	271.7	6.0	6.1	446.5	99.5

Maximum Stage 2.21 feet at 10:45 December 4, 1974 - Discharge 21.3 second-feet. Total Acre-feet 1974-75 (2,523)

MEAN DAILY DISCHARGE OF BURBANK WESTERN STORM DRAIN AT RIVERSIDE DRIVE

(in second-feet)

Station [illegible]-B

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	5.6	[illegible]	6.7	6.7	6.7	5.6	7.9	7.9	9.1	10.0	10.0	10.6
2	[illegible]	[illegible]	5.6	7.9	77.0	5.6	7.9	7.9	5.6	10.0	10.0	9.1
3	8.0	5.6	65.0	7.9	151.0	5.6	7.9	7.9	5.6	10.0	10.0	11.9
4	7.5	5.6	118.0	7.9	13.0	6.0	7.9	7.7	5.0	10.0	10.0	10.6
5	7.6	5.6	5.6	7.9	5.6	62.0	78.0	9.1	5.0	10.0	10.0	10.6
6	5.6	5.6	6.7	7.9	5.6	272.0	25.0	9.1	6.7	10.0	7.9	10.6
7	37.0	5.6	6.7	6.7	5.6	40.0	12.8	7.9	9.1	10.0	10.6	10.6
8	6.7	5.6	5.0	7.9	9.3	156.0	10.9	7.9	9.1	10.0	10.6	10.6
9	5.6	5.6	5.6	5.6	39.0	8.0	12.0	7.9	9.1	10.0	9.1	10.6
10	5.6	5.6	5.0	7.9	27.0	25.0	7.0	9.1	9.1	10.0	9.1	11.9
11	5.6	7.9	5.0	5.6	7.9	7.9	6.0	9.1	9.1	10.0	10.6	10.6
12	5.6	9.1	5.0	7.9	7.9	6.7	6.0	9.1	9.1	10.0	10.6	11.9
13	5.6	7.9	5.0	7.9	6.7	47.0	6.0	10.6	9.1	10.0	10.6	11.9
14	5.0	6.7	5.0	7.9	6.7	10.6	6.0	9.1	9.1	10.0	10.6	10.6
15	5.0	6.7	5.0	7.9	6.7	5.6	25.0	11.9	9.1	10.0	9.1	11.9
16	5.0	7.9	7.9	7.9	6.7	6.7	6.0	14.6	9.1	10.0	7.9	17.[illegible]
17	5.6	6.7	10.6	7.9	6.7	5.6	6.0	14.6	9.1	10.0	9.1	11.9
18	5.6	6.7	10.6	7.9	6.7	5.6	6.0	13.1	10.6	10.0	11.9	11.9
19	6.7	6.7	10.6	6.7	7.9	6.7	7.0	14.6	10.6	10.0	13.1	13.1
20	6.7	9.1	10.6	7.9	7.9	5.6	7.0	19.7	10.6	10.0	13.1	14.6
21	5.6	9.1	10.6	6.7	7.9	7.9	7.0	11.9	11.9	10.0	11.9	11.9
22	5.6	5.6	11.9	7.9	7.9	50.0	7.0	11.9	10.6	10.0	10.6	11.9
23	5.6	5.6	11.9	7.9	7.9	6.7	7.0	10.6	10.6	10.0	10.6	13.1
24	5.6	5.6	11.9	7.9	6.7	6.7	7.5	10.6	11.9	10.0	10.6	10.6
25	5.6	5.6	11.9	7.9	5.6	7.9	7.5	9.1	13.1	10.0	11.9	9.1
26	5.6	6.7	11.9	7.9	5.6	6.7	7.5	9.1	13.1	10.0	10.6	10.6
27	5.6	5.6	11.9	9.1	5.6	6.7	7.5	9.1	11.9	10.0	10.6	10.6
28	5.6	5.6	134.0	9.1	5.6	6.7	7.8	10.6	11.9	10.0	10.6	10.6
29	5.6	5.6	7.9	9.1	--	7.9	7.9	9.1	11.9	10.0	10.6	10.6
30	5.6	5.6	7.9	7.9	--	6.7	7.9	9.1	11.9	10.0	10.6	10.6
31	5.6	--	6.7	7.9	--	6.7	--	9.1	--	10.0	10.6	--
Total	231.[illegible]	196	743.7	239.1	444.4	813.8	31[illegible]	319.[illegible]	29[illegible]	310.0	323.1	342.8
Mean Daily Discharge	7.[illegible]	6.5	24.0	7.7	16.0	26.2	11.1	[illegible]	9.6	10.0	10.4	11.4
Max. Mean Daily Discharge	37.0	9.1	118.0	9.1	151.0	272.0	78.0	19.7	13.1	10.0	13.1	17.1
Min. Mean Daily Discharge	5.6	5.0	5.0	5.6	5.6	5.0	6.0	7.9	5.0	10.0	9	9.1
Runoff, in Acre-feet	459.0	377.0	1,480.0	474.0	921.0	1,610.0	658.0	633.0	571.0	615.0	641.0	680.0

Maximum Stage [illegible] feet at 03:10 on December 4, 1974 Discharge 2,370 second-feet. Total Acre-feet 1974-75 (9,119)

APPENDIX D

WELLS DRILLED AND DESTROYED

WELLS DESTROYED 1974-75

Party	State Well No.	Owner No.
Western Oil and Gas Association	1N/13W-33P09	W-32
" " " " "	1N/13W-33P10	W-37
" " " " "	1N/13W-33P13	W-42
" " " " "	1N/13W-33P14	W-43
" " " " "	1N/13W-33P21	W-55
" " " " "	1N/13W-33P23	W-56
" " " " "	1N/13W-33P25	W-64
" " " " "	1S/13W-04C12	W-45
" " " " "	1S/13W-04C14	W-50

Wells Drilled

- None -

APPENDIX E

CONVERSIONS, ENGLISH TO METRIC SYSTEM

Quantity	English unit	Multiply by	To get metric equivalent
Length	inches (in)	25.4	millimetres (mm)
		.0254	metres (m)
	feet (ft)	.3048	metres (m)
	miles (mi)	1.6093	kilometres (km)
Area	square inches (in^2)	6.4516×10^{-4}	square metres (m^2)
	square feet (ft^2)	.092903	square metres (m^2)
	acres	4046.9	square metres (m^2)
		.40469	hectares (ha)
		.40469	square hectometres (hm^2)
		.0040469	square kilometres (km^2)
	square miles (mi^2)	2.590	square kilometres (km^2)
Volume	gallons (gal)	3.7854	litres (l)
		.0037854	cubic metres (m^3)
	million gallons (10^6 gal)	3785.4	cubic metres (m^3)
	cubic feet (ft^3)	.028317	cubic metres (m^3)
	cubic yards (yd^3)	.76455	cubic metres (m^3)
	acre-feet (ac-ft)	1233.5	cubic metres (m^3)
		.0012335	cubic hectometres (hm^3)
		1.233×10^{-6}	cubic kilometres (km^3)
Volume/Time (Flow)	cubic feet per second (ft^3/s)	28.317	litres per second (l/s)
		.028317	cubic metres per second (m^3/s)
	gallons per minute (gal/min)	.06309	litres per second (l/s)
		6.309×10^{-5}	cubic metres per second (m^3/s)
	million gallons per day (mgd)	.043813	cubic metres per second (m^3/s)
Mass	pounds (lb)	.45359	kilograms (kg)
	tons (short, 2,000 lb)	.90718	tonne (t)
		907.18	kilograms (kg)
Power	horsepower (hp)	0.7460	kilowatts (kW)
Pressure	pounds per square inch (psi)	6894.8	pascal (Pa)
Temperature	Degrees Fahrenheit (°F)	$\frac{tF - 32}{1.8} = tC$	Degrees Celsius (°C)

California. Dept. of Water Resources.
Bulletin.